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ABSTRACT

This monograph provides a review of selected literature that addresses issues and problems in the preparation and continuing development of professional educators. The focus is upon relevant contextual and institutional factors that impinge upon professional development, and an examination is made of the literature related to the primary persons or individuals involved; i.e., pre- and inservice teachers and teacher educators. The curricula and instructional procedures that define professional development are delineated. The paper is organized to focus on four stages of professional development: (1) recruitment and selection; (2) preservice teacher education; (3) induction into teaching; and (4) inservice teacher education. Each stage is examined from the dual perspectives of contextual and institutional issues and concerns about individuals, and the curricular and program designs embedded in these stages. The literature reviewed includes research, and descriptive and analytical studies. An extensive bibliography is included. (JD)

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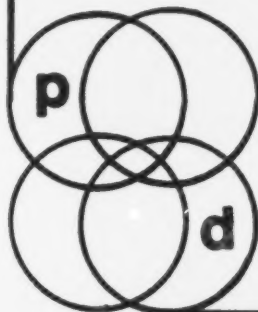
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Issues and Problems in Professional Development

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**ISSUES AND PROBLEMS
IN PROFESSIONAL DEVELOPMENT**

**A Review of Selected Literature
Pertaining to the
Recruitment and Initial, Inductive, and Inservice
Education of Teachers**

**Prepared as a Resource for
North Central Regional Educational Laboratory
Long Range Program Planning and Development**

NORTH CENTRAL REGIONAL EDUCATIONAL LABORATORY

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FOREWORD

This commissioned paper provides a review of selected literature that addresses issues and problems in the preparation and continuing development of professional educators. The original purpose of the review was to assist the North Central Regional Educational Laboratory (NCREL) in developing a plan for dissemination of information and for action research aimed at improving programs of professional development.

NCREL is indebted to authors Howey, Matthes, and Zimpher and their universities for contributing their time and effort to enhance our professional knowledge. They illuminate the interdependent nature of the various stages of professional development, beginning with the selection of qualified candidates and progressing through preservice, induction, and inservice education that is embodied in diverse forms of staff development to serve multiple purposes.

The authors go beyond a dispassionate review of literature to ignite a renewed commitment to achieving educational excellence. The goal is to ensure quality instructional programs not only for children and adolescents in classrooms, but also for the professional adults entrusted with the continuous intellectual and personal growth of their students and colleagues.

This paper is being made available with the expectation that it may assist in translating what we have learned from practice and research into improved policies and programs in professional development. It may also be useful to researchers addressing the gaps in our knowledge of the issues, problems, and potential in professional development.

The Lab deeply appreciates the editorial assistance of Judith Gallagher and the skill and patience of Doris Bellknap in providing word processor copy throughout many stages of revision.

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INTRODUCTION

The stated mission of the North Central Regional Educational Laboratory is "to assist in bridging the gap between research and practice in education" in the designated seven-state region. Professional development has been selected as the pivotal activity to support the Laboratory's focus on improving instructional quality for all students. The primary objective of the professional development component of NCREL is the development of a laboratory service plan for professional development projects that are research-based, regionally relevant, and consistent with the overall mission of the Lab. The Laboratory's planning process draws on this comprehensive literature review, an analysis of exemplary professional development activities that exist in the region, and a synthesis of salient features from both research and practice. This paper reviews research, descriptive, and analytical literature across four phases of professional development: recruitment and selection, preservice programs of teacher education, teacher induction, and inservice teacher education.

Some background information should be helpful in examining this document. First, while professional development activities obviously concern themselves with a variety of groups, including such key people as principals, we will focus specifically on the professional development of teachers in this review. Second, there are, of course, multiple and powerful interrelationships between staff development and what we have learned about both effective schools and effective forms of instruction. However, the "effective school" and "effective teaching" literatures will be addressed more fully in another paper. Third, to develop this paper we had to arrive at a meaningful strategy

for creating a conceptual map of the literature on professional development, as well as a workable division of labor for providing a relatively inclusive literature review.

The approach we developed focuses on a matrix of issues and stages associated with professional development from recruitment and selection through inservice teacher education as follows: We decided to focus upon relevant contextual and institutional factors that impinge upon professional development and to examine the literature related to the primary persons or individuals involved; that is, pre- and inservice teachers and teacher educators. Second, we examined the curricula and instructional procedures that define professional development. We then organized the paper to focus on four stages of professional development as reiterated below.

- a. recruitment and selection,
- b. preservice teacher education,
- c. induction into teaching, and
- d. inservice teacher education.

Each stage was examined from the dual perspectives of contextual and institutional issues and concerns about individuals, and the curricular and program designs embedded in these stages.

In many instances, the literature we sought to review was disparate and somewhat unmanageable. Also, much of the literature on professional development is non-research-based. Consequently, our selection of research, descriptive, and analytical literature was grounded in our knowledge of the best work in these areas and an attempt to locate the most timely and salient entries for citation in this paper. Ultimately, the various projects included in the action agenda of the Laboratory will enhance our review of research and

descriptive literature with analyses of current promising practice.

We commend the Lab for its foresight in determining that the ultimate action agenda for professional development in the region should be grounded in an initial review of research findings. Our outline for the presentation of salient findings from research and relevant excerpts from descriptive and analytical pieces will be presented in sections following the four phases of professional development identified earlier. To assist readers, each of the four sections includes summary statements and recommendations for the future agenda of the North Central Regional Educational Laboratory.

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TEACHER RECRUITMENT AND SELECTION

Overview of the Issues

Issues associated with teacher recruitment and selection are not limited to one institutional setting. Reference to these issues as being "within a context" may be somewhat artificial. Formerly, it was the prerogative of a normal school alone to select its clientele. Recruitment and selection to schools, colleges and departments of education (SDEs) is now tempered by state regulations promulgated in an atmosphere of great public concern. What impact do these conditions have upon the selection process? How has public opinion shaped policies to ensure the selection of good teachers and, by implication, the weeding out of poor teachers? By the end of the 1980s, most statistical predictions reflect another serious teacher shortage, at the very time when the effects of teacher selectivity will probably limit supply even more and, as will be shown, seriously reduce the number of minorities who select teaching. Further, because of the pressures of staffing every classroom with a certified teacher, the issuance of emergency certificates is likely to undercut any significant selection procedures we attempt to implement.

Finally, since the process of selection assumes a large population of high school graduates interested in teaching, we must concern ourselves with the incentives of the workplace. Is teaching going to be a social service that many secondary graduates are interested in performing? In this case, the context of schooling now and in the future will profoundly contribute to the willingness of bright and capable students to become teachers. These conditions, then, serve as the context for teacher recruitment and selection. They affect and are affected by state and federal policy and initiative; the

standards and practices of schools, colleges, and departments of education; and the elementary and secondary school settings in which our graduates serve. Let us turn first to a description of the teacher pool to examine the effects of the societal and professional context on teacher recruitment and selection.

A Profile

In 1982, there were 2.13 million classroom teachers in public elementary and secondary schools. Surprisingly, the composition of this work force over the past three decades has remained relatively stable in terms of gender and race. Lyson and Falk (1984) described teaching as

. . . most often perceived as an attractive career option by females, non-whites, rural residents, those from lower social class origins, and those who have not performed exceptionally well in high school. Males, whites, urban residents, those from middle class backgrounds, and exceptionally good students, in contrast, have access to a wider range of professional career options and are consequently less likely to pursue a teaching career (p. 182).

Faistritzer (1983) characterized the typical teacher as

a woman approaching her 40th birthday. She has taught for 12 years, mostly in her present district. Over those dozen years, she returned to her local college or university often enough to acquire enough credits for a master's degree. She is married and the mother of two children. She is white and not politically active. Her formal political affiliation is with the Democratic Party. She teaches in a suburban elementary school staffed largely by women. In all likelihood the school principal is male. She has about 23 pupils in her class. When counting her after-hours responsibilities, she puts in a work week slightly longer than the typical laborer, and brings home a pay check that is slightly lower (p. 1).

She belongs to a work force of college graduates, among whom 7.5% have chosen to become teachers. In fact, education degrees rank second in all college degrees conferred (Faistritzer, 1983). We know that when the female prototype was selected into the teaching profession, our interest in candidate characteristics typically involved personality and behavior. Further, the essentially domestic emphasis of formal education on the role of women may have been a

source of much encouragement for women to enter the field of teaching, in a context of women and children and where the intellectual process has been typically deemphasized (Kaestle, 1983). As they did 10 years ago, the background and attitudes of the teaching pool reflect a low-income family background: candidates usually are the first generation of college-bound children, enroll in low-cost colleges (often transferring there from a community college), and have motives other than job status or money as a reason for teaching. Both the past and current profiles are of a female teacher; only 27.7% of those who choose to teach are men. More women than men choose inner-city sites for teaching jobs, although once there, more men stay (Coneaux, 1971). Unfortunately, the low number of male teachers exacerbates another current problem, since a high percentage of inner-city children live in homes without males; so neither home nor school offers significant male adult models (Corrigan, 1984).

The concept of career development offers another perspective of teachers. Super and Hall (1978) see career development in four phases. The first phase, labeled identity, spans the initial 25 years of an individual's life and involves exploration of career options. The second phase, intimacy, covers the ages 25 to 45 and could be called the boom period. Individuals go through some trial initially and then experience advancement and clear establishment of a career. The third phase, generativity, spans ages 45 to retirement; it will find individuals either continuing to grow, maintaining, or actually stagnating. The final phase, beginning at retirement, is envisioned as a general decline in performance.

This model appears to have general applicability to society at large. The career-ladder concept has evolved from this model of career development.

Implicit in an analysis of the career ladder concept (Rosenholtz, 1985) is the recognition that it is based on the predominate male belief in autonomy and achievement. Women, who comprise the vast majority of teachers, tend to ascribe more to the notion of attachment and intimacy (Gilligan, 1979). The traditional concept of career development may well be antithetical to the current population of teachers.

Further, individuals in human services establish careers much earlier and enter the generativity phase with the potential for growth, maintenance, or stagnation much earlier than individuals in other careers. The two rather limited studies reported by Newman, Burden, and Applegate (1980) indicate that teachers in the generativity stage fluctuate in satisfaction and assume more of a posture of maintenance than growth. In contrast, earlier studies (Lortie, 1975; Zeigler, 1967) presented a much more negative view of longevity in teaching. An image of individuals experiencing a sense of being trapped in a career of little value with no options comes from these studies. This, coupled with the increased retention of teachers (Reighart, 1984), raises serious questions about those who choose teaching as a career and the conditions they experience in the workplace. Now let us contrast the demographic and career oriented profiles of teachers with data on their academic ability.

Academic Ability

During the 1983 year of reform reports, the Nation at Risk drew considerable attention to the issue of academic ability by concluding "that not enough academically able students are being attracted to teaching," and "that too many teachers are being drawn from the bottom quartile of graduating high school and college students." Weaver (1979 and 1981) and Dearman and Plisko (1982) have documented the decline of SAT/ACT scores among prospective teachers. In the

much-cited study of North Carolina teachers between 1973 and 1980, Vance and Schlechty (1982) found a general decline of academic ability as measured by the National Teachers Exam, particularly among the white females completing teacher education programs. We are, in fact, selecting more teachers whose scores on standardized tests fall in the lowest quarters among all college-bound students who participate in the testing process (Darling-Hammond, 1984). Still, there are contradictory findings. For instance, Morrissey's (1984) analysis of entering freshmen (from the data of the Cooperative Institutional Research Program) suggests that historical trends do not indicate a significantly less able group planning to become teachers than was the case 10 years ago.

The contrast in perspective seems in part a difference in degree and not in substance. That is, some analysts contend that the teaching profession continues to receive its share of highly academically talented, college-bound students. But, because the population on which we draw is much larger than in the past and the incentives to teach are declining, we are left with a large population of less highly capable individuals based on scores on standardized admissions tests. Accordingly, from the highest quartile of measures of intellectual ability, 11% of the students go into teaching, whereas 38% from the lowest quartile go into teaching. In short, according to Ianier (1984), too many "lows" gets translated into not enough "highs."

Interpretation of data on academic ability must be tempered by other measures of our talent pool. There are data (Vance and Schlechty, 1982) that indicate a significant proportion of academically talented students completed teacher education programs and actually taught. It is unclear from which type of institution of higher education the more academically talented students graduated. If differences exist in the academic talent of teachers graduating

from the various types of institutions, they are difficult to determine. However, the impression gleaned from the survey by Ishler (1984) is that institutions belonging to the Association of Colleges and Schools of Education in State Universities and Land Grant Colleges and Affiliated Private Universities may have higher academic standards in teacher education than other institutions. Yet there are limited data on the relationship between the academic abilities of teacher candidates and the quality of the programs through which they are prepared. Nevertheless, it is difficult to avoid the conclusion that a disproportionate number of individuals with limited academic potential are "pursuing a career that is basically academic in nature" (Lanier, 1984, p. 45).

Teacher Supply and Demand

Our current demand for new teachers stands at over 200,000 annually. Trends suggest that by 1990 we will need 220,000 but will have available only 160,000 teacher applicants. Already thousands of spaces are filled annually with uncertified teachers because of lack of qualified candidates (Galambos, 1980). Sandefur (1984) and Weaver (1981) further note a decline in the candidate pool from 1972 to 1980 of 50%, exceeded by a decline in the last decade of 65% for Minnesota (Minnesota Higher Education Coordinating Board, 1984). Supply and demand figures also suggest that an increasing number of candidates enter the job force as substitutes, paraprofessionals and part-time teachers, with a high turnover of young, untrained teachers (Freeman et al., 1979).

In Texas, the supply picture is further aggravated by a decline in student population in the top three grades of high schools, followed by expanded enrollments in all lower grade levels. The high school population

expected to supply tomorrow's teachers is decreasing just when the ranks of those they are intended to serve is expanding (Corrigan, 1984). In 1980-81, Texas granted 5,698 emergency certificates. Still, since 30% of those prepared to teach chose not to do so, the state was forced to hire 68% of that year's teaching force from graduates outside Texas (Corrigan, 1984). The high demand by the 90s for an extended teacher pool suggests that we will have to take more and more of the average students from the lowest quartiles cited above just to fill our ranks. Kerr's (1983) analysis that the best and brightest are not entering teaching, the conclusion that teaching fails to attract and retain those of high academic ability (Vance and Schlechty, 1982) and Feistritzer's (1983, p. 60) dismay that "new opportunities ... are denying education the choice of the brightest and most creative women within society" all paint a very dismal picture of our future.

The exact nature of teacher shortages across subject areas is not clear (Lanier, 1984; Borkow and Jordan, 1983). Certainly in selected subjects such as mathematics, science, art, foreign language, bilingual education, and special education (Darling-Hammond, 1984; Misemache and Adams, 1978; Herman, 1978) and in geographic regions (Dunathan, 1979), shortages existed in the 1970s and are even more severe now. The general impression that an "over supply" of teachers existed, coupled with other social trends, stimulated college students to select other career opportunities. In 1970-71, 21% of all bachelor's degrees were awarded to education majors; and by 1983, this figure had dropped to approximately 11%. The National Center for Educational Statistics (1981) predicts that it will drop to approximately 8.4% by 1988 (a figure slightly higher than cited earlier from Feistritzer, 1983).

This decrease in the percentage of individuals completing degree programs in education takes on greater significance when one realizes that college enrollments will also shrink to 6.7 million in 1988 (National Center for Educational Statistics, 1981). In essence, the real number of individuals prepared to teach has dropped dramatically and will continue to do so. Coupled with the projected increase in enrollments in elementary schools, this suggests that nationally by 1990 there will be an 18% to 19% increase in the number of elementary school teaching positions and a shortage of teachers to fill them. However, by 1990 a drop of 19% of students in the 14-17 age group is anticipated; if the "middle-age bulge" among secondary teachers is true, this leads one to believe adjustments/reallocations will be made from the secondary to elementary schools, especially given the fact that only a 1% increase in the school-age population is anticipated.

The profession's holding power for the bright is also declining: 37% of the teaching pool whose scores were in the top 10% on measures of verbal ability remain in teaching after six years, whereas 60% of lower-quartile scorers were still in teaching after the same period of time (Schlechty and Vance, 1981, Sharp and Hirschfield, 1975, and Vance and Schlechty, 1982). We also have an older work force, but studies confirm that number of years in teaching is not related to continued or improved classroom effectiveness (Katzman, 1971; Levin, 1970; McLaughlin and Marsh, 1978, Murnane, 1975; and Summers and Wolfe, 1977). Even teachers with advanced degrees — which typify a large portion of our teaching force — are not found to improve student learning (Brown and Saks, 1975; Coleman et al., 1966; Katzman, 1968; Harushak, 1977; and Wendling and Cohen, 1981). However, on the variable of academic talent — the one we're most threatened with losing in our new candidates — a

strong relationship has been found between intellectual performance and student learning. Teachers of high academic ability experience greater success in helping students learn than do teachers with low academic ability (Bruno and Dochar, 1981; Hanushek, 1977; Levin, 1970; Murnane and Phillips, 1978; and Summers and Wolfe, 1977).

In short, a teaching population of too many lows and not enough highs, of too few minorities and not enough males, of older but not necessarily better teachers, heightens anxiety at several levels. It is appropriate, then, to turn in our review to a consideration of both screens (initiatives for rigorous selection) and magnets (incentives for teaching) to determine the impact of these devices on our teacher pool. Ironically, we are likely to find that current screens do serve to weed out the minimally qualified, but incentives for entering teaching do not seem to be adequate to hold those from the top quartiles. Further, the screens tend to reduce the teaching pool, aggravating the supply and demand problem and also confounding our hopes for increased minority recruitment.

Teacher Selection and Admission

In an analysis of initiatives intended to increase the desirability of the teaching pool, we find sponsors for reform at all levels. The list of interested participants includes legislatures, governors' offices, state executive agencies for both K-12 and higher education, state boards of education, higher education policy boards and special blue ribbon committees (Gideonse, 1984).

The range of initiatives proposed for teacher selectivity spans attempts at teacher competency testing, mandating higher grade point averages (GPAs) for entrance and exit of teacher education programs, testing program graduates,

defining higher institutional standards, employing alternative routes to certification, employing career ladders, recertifying periodically, and inviting new institutions to participate in the licensure of teachers. By far the most popular screen for teacher talent is the teacher competency testing program (Gideonse, 1984). These initiatives constitute a sequence of points where standards for selection can be effected. Our analysis begins with the development of competency testing measures at both the entrance and exit points to teacher preparation.

In Sandefur's (1984) analysis, by July 1984, 32 states reported some type of competency test for teachers. Twenty-three of these states require teacher education institutions to present state-approved plans for admissions procedures. In addition, 23 states have also adopted some type of competency test for communication and math skills, with 21 more soon to follow. Only nine states (two of which are in the NCREL region) have no programs of competency assessment for teacher licensure. In Illinois, the State Board of Education has committed itself to the creation of rigorous and uniform standards for admission to all teacher education programs by June 1, 1985, and has asked the State Certification Board to recommend by January 1985 specific policies to assess knowledge and practical performance (Sandefur, 1984).

In the same survey, Sandefur reports that Indiana has established a committee to validate the National Teachers Examination (NTE) and will require that a basic skills screening test be implemented by July 1, 1985. The Ohio Teacher Education and Certification Committee has recommended that all colleges should conduct verbal and math skill assessments before students are admitted to the teacher education program, the tests and cutoff scores to be approved by the State Department of Education, effective December 1985. Although not

inclusive of the NCREL region, these reports illustrate the general trend toward higher admission and certification standards and procedures. Many claims for selectivity have been made by teacher training institutions, but only recently have data supported extensive use of tests of basic skills as entry requirements (Sandefur, 1984). In 1972, he reports, only 17% of 180 randomly selected institutions used such tests. Instead, they were still determining admissions by using grades, letters of recommendations, and interviews to provide data on prospective candidates. In 1984, 64% of 356 randomly selected institutions reported the use of screening tests for admissions. Of this population, 86% tested for basic skills, 74% reading skill, 69% math proficiency, and 89% writing ability. As test scores have been introduced to the admissions process, GPA requirements have also stiffened. The grade point average for admission to teacher education programs nationally has risen from an overall GPA (on a 4-point scale) of 2.0 to 2.2 and within the major from 2.2 to 2.5.

A further analysis of admissions and graduation standards for teacher education is reflected in a survey of the 103 randomly selected training institution members of the Association of Colleges and Schools of Education in State Universities and Land Grant Colleges and Affiliated Private Universities. Of these institutions, 64% provided data (Ishler, 1984), reporting that the GPA for admission ranged from 2.0 to 3.0, with 46% reporting 2.0; 23%, 2.1 to 2.25; 27% at 2.5; and 3%, 3.0. Further, 66% of the institutions require basic competency tests for admissions and 15% more are considering this requirement.

At the point of exit, 42% of the responding institutions report the use of some type of competency exam, either university-created or state-mandated or

approved. Even so, across all teacher education programs nationally only about 10% of those who seek admission are denied, a figure that reflects both the minimum level of performance expected in these tests and an increasing attitude among some gatekeepers that since there appears to be no direct link between the content of the tests and effective teacher performance, that entrance is a right that cannot be denied (Tom, 1981).

Having established that competency testing is a widespread approach to improving the teaching pool, particularly in regard to state-level policy, we need to consider the primary question: "Do competency tests assure quality teachers?"

Evertson et al. (1984) report that overall, regularly certified teachers ranked higher on evaluations by their supervisors in follow-up studies of practicing teacher graduates than did those with less formal teacher training. There was a small but statistically significant difference between trained and nontrained teacher performance. In general, one could conclude that certification appears to make some difference. However, there seems to be no documented evidence that testing as a part of the certification process in any way assures proficient and effective teaching practice (Pugach and Raths, 1983; Darling-Hammond and Wise, 1984; Evertson et al., 1984; and Hyman, 1984).

Although scores in verbal ability appear to be related to teacher effectiveness (at what level is not yet determined), ACT/SATs have not been consistent predictors of teacher effectiveness (Evertson et al., 1984). The NTE appears to correlate well with performance on the Graduate Record Examination, and GPA appears related to academic ability. Still, there is no consistent relationship of any of these measures to classroom performance. Nor will the quality of teacher candidates be improved by test administration, particu-

larly since the "in and out line" of test scores is at this time arbitrarily arrived at (Pugach and Rath, 1983).

Teacher testing of minority candidates is, as might be expected, hotly debated. Hilliard (1984) charges that tests are "linguistically and culturally biased and unconnected to teacher effectiveness." Specifically, in three states that use testing as a basis for licensure, the statistics reflect this trend: In Florida 90% of the white candidates passed the test but only 38% of their minority counterparts passed; in Louisiana, 78% of the whites passed as opposed to 10% of the minorities; and in Texas, 63% of the whites, 20% of the latinos and 12% of the blacks passed the test (Sandefur, 1984). In Kentucky, the failure rate was four blacks to each white on the National Teacher Examination. In 1980, 12.5% of all teachers were black; by 1990 that figure is projected to decline to only 5%. Witty (1982) speculates that "the very existence of the black public school teacher is threatened." According to Stedman (1984), the entire testing phenomenon represents for the teaching profession a "pyrrhic victory" in that it has reduced the population of minorities able to pass the tests and enter the teaching profession. Clearly, the difference in pass rates between minorities and whites is an issue of great social concern.

Still, the faith in competency testing as a panacea for establishing a quality teaching pool is firmly rooted, as much for its practical appeal as for its true validity as a screening device. The administration of competency tests is cheaper, more clear cut and less intrusive (Darling-Hammond and Wise, 1984) than other forms of assessment, including psychological measures and interpretations, observations of actual teaching practice, and other more subjective measures. The test offers high public visibility (Gideonse,

1984) and the perception that someone is tackling the problem of poor-quality teachers. Although the states incur some expense in monitoring these systems, they have benefited from widespread public involvement in the initial policy decision to test, and they continue to receive support for these "stricter" policies now that the American Federation of Teachers (AFT) and the NEA support testing as one critical aspect of a comprehensive teacher evaluation program (Higher Education Daily, January 30, 1985).

Darling-Hammond and Wise (1984) caution that in our zeal to make symbolic public moves to raise standards, we ought to be careful not to overwork the unresolved issue of test validity. "If tests are treated as black boxes, we will never know how what we have measured affects what it is we would like to achieve" (p. 27). They reference testing expert Robert Sternberg (1984) to underscore this point:

The greatest danger in the use of any test, whether conventional or new, is the psychological substitution of predictor for criterion. . . . Prior grades are the best predictor of future grades; prior job performance is the best predictor of future job performance. When such information is available and its quality known, then it is certainly more useful than test scores, whose greatest value is, predictably enough, in predicting other test scores. . . . Test scores tend to get more weight than they deserve in selection and advancement decisions, in part because of their mystique and in part because people tend to weigh accurate-sounding information highly, almost without regard to its validity. But the appearance of precision is no substitute for the fact of validity. Thus, any attempts we make to improve tests must be accompanied by equally valiant attempts to correct our overreliance on them (p. 698).

In short, in answer to two pervasive motives for testing (quality and public opinion) it appears that although tests do not validate teacher competency, there is public support for such policies, at least in the short run. However, long-term gains will accrue only if we are also successful in finding truly effective ways to attract quality candidates to teaching. The next section of this paper is, consequently, devoted to the concept of "magnets";

that is, what will attract quality graduates to teaching?

Incentives and Disincentives for Teaching

Gideonse's (1984) survey of state policy regarding teacher recruitment and selection finds that several initiatives besides teaching are being employed to attract quality candidates into teaching. In order of popularity, these mechanisms include alternative routes to certification, the establishment of scholarships and fellowships and easy payback or forgiveness loans, incentive plans for merit pay, career ladders and master teacher plans, and finally, although far less frequently cited, the total overhaul of certification and program approval standards. The size and complexity of this latter task have made it a generally unattractive approach for most states.

Since other sections of this paper deal with career-ladder plans and revisions of state approval standards, we will focus here on the first of these alternative routes methods. Gideonse (1984) refers to it as another "quick fix" solution. In this instance two states (New Jersey and Pennsylvania) have established vehicles for admitting nonteacher education degree graduates to teaching, providing for accrual of teaching competency concurrent with on-the-job training. In New Jersey, graduates who pass subject matter and basic skills tests become provisional teachers, and avoid any training intervention; the same is true for the Pennsylvania "intern certificate" (Clark, 1984).

Gideonse contends that these measures are predicated on the faulty assumptions that there is nothing in the nature of teacher preparation that is worthy of learning or related to the production of competent teachers, and that those who come to teaching from the liberal arts or from a late career shift from another major deserve the ease of streamlined entry to the profession. Further, practicing states contend that this route cuts down on disaffection

toward teaching by those who are "turned off" by teacher training. These measures have been started too recently for their impact to be assessed.

There remains the very complex issue of other incentives that could provide magnets to teaching. Schlechty and Vance (1981) contend that if we do not make teaching more attractive, the net effect of other measures, particularly testing, will be to create huge teacher shortages. Rosenholtz's (1985) solution includes increasing the base salaries for teaching, enhancing conditions in the workplace, and offering numerous avenues for professional development. Lortie (1975) reports in his comprehensive study of the school teacher that teachers identify the following as incentives to teach: the opportunity to work with young people, the importance of teaching as a public service, the ease of both entry to and exit from the profession, the material benefits of being employed, and the psychic rewards of the educative process.

But the disincentives for teaching far outweigh the incentives. In 1984, Darling-Hammond contrived this want ad for teachers:

WANTED

College graduate with academic major (master's degree preferred). Excellent communication and leadership skills required. Challenging opportunity to serve 150 clients daily, developing up to five different products each day to meet their needs. This diversified job also allows employees to exercise typing, clerical, law enforcement, and social work skills between assignments and after hours. Adaptability helpful, since suppliers cannot always deliver goods and support services on time. Typical work week 47 hours. Special nature of work precludes fringe benefits such as lunch and coffee breaks, but work has intrinsic rewards. Starting salary \$12,769, with a guarantee of \$24,000 after only 14 years. (Darling-Hammond, 1984, p. 1)

In her survey of practicing teachers, 40% reported that if they had the decision to make over, they would not choose teaching again. They cite inadequate facilities and materials to support their work, large class size and too many nonteaching duties, the fact that they are not treated as profes-

signals by the public and find little local administrative support for their work and, finally, that they lack the professional autonomy to make decisions about their students or about themselves as teachers. Lortie (1975) tells us that teachers suffer from isolation and lack of opportunities to share their experiences with their colleagues, which pose the greatest impediments to learning to teach better. Teachers report lack of preparation time, conflicts with their principals, and difficulty dealing with student misconduct as frustrations with the profession (Rosenholts, 1985).

Money is the last item teachers report as a teaching incentive (Rosenholts, 1985). Bishop (1977) and Lortie (1975) report that teachers do not care about money; they like the intrinsic rewards of student academic accomplishment. Since teachers are service-oriented, money can even be a disincentive (McLaughlin and March, 1978). When there are no professional rewards, frustrations set in and teachers leave (Becker, 1952; Bruno and Dozhar, 1981), or go to another school (Anderson and Marks, 1977; Dworkin, 1980), or if they have no other alternative, reduce their commitment to teaching (Levy, 1970; Spuck, 1974).

Corrigan's (1984) perspective on pay incentives is not exactly consonant with this view, although his assessment of the general disincentives is similar. He reports interviews with Texas teachers who say that the best feature of their salary is that it qualifies them for free lunches under the Poverty Income Guidelines (\$15,990)! Passionately, Corrigan reports this comment from a practicing teacher: "Parents ask me daily if their children are competent to go to college. Yet I know if I stay in this profession, preparing other people's children for college, I will never be able to afford to send my children along with them" (p. 11). Corrigan notes that Japan spends twice as

much of its national budget on education as on defense, and teachers start at the same salary as engineers. In America, 10 other professions have a starting salary of \$22,000. "Cooks, waiters, garbage truck drivers, prison guards, hotel housekeepers, and muffler-shop manager trainees are higher than the minimum pay for teachers" (Corrigan, 1984, p. 13). Cronin concludes, "By and large the society gets what it deserves out of its school system. If you don't value things, you don't get them." (Corrigan, 1984, p. 13).

Concurrently, several reports document the phenomenon of moonlighting among employed teachers. An NEA study (1982) shows that half of all teachers supplement their incomes, with educators leading all occupations at holding two jobs. The average second job occupies over 13 hours a week of the teacher's time (Corrigan, 1984), time that some think should be spent on class preparation. Others report that moonlighting helps their teaching (22%), hinders them (20%), or has no effect at all on their primary job (58%) (Wisniewski and Kleins, 1984). Boyer (1983) reports that for many, moonlighting is essential. Salaries from a range of jobs, from cab drivers to gardeners and store clerks, pay debts (37%), enhance the quality of teachers' lives (36.5%) or simply constitute a second career interest (17%) (Wisniewski and Kleins, 1984). More profound, though, is the general dissatisfaction among those who moonlight: 37% report that they are considering leaving teaching, and 58% of the males say that they are looking at other careers (Corrigan, 1984). In short, attempts to be perceived as professionals are deterred when teachers take so many nonprofessional jobs for nonprofessional wages and benefits (Wisniewski and Kleins, 1984).

Whether pay is more or less significant to teacher retention, there are several other problems with the conditions of teaching. Teachers report

experiencing more stress than other professions (including air traffic controllers), caused by low esteem and lack of public appreciation, excessive paperwork, discipline problems, censorship that threatens their integrity, and constantly having to execute other people's orders (Orrigan, 1984). Teacher burnout (Bruno and Docher, 1981) comes from the tension of low pay, a high workload, frustration, and the teacher's refusal to serve or the appearance of deserting the students. Teachers are "on a spiral toward futility" (Orrigan, 1984, p. 17).

Problems of unaccommodating working conditions and inadequate pay are complicated by mixed reactions to current attempts to provide incentives for teachers, namely master teacher programs, career ladders, and merit pay programs. Although alternative patterns for implementing career ladders will be addressed in another section of this paper, the initial reaction in many corners has been to question the effectiveness of such efforts. Rosenholtz (1985) refers to a set of "myths" propagated against teachers. Competition through career ladders and higher salaries, she claims, has unintended negative consequences. Teachers should not be isolated: they work most effectively in collegial groups, collaboratively. Performance improves as teachers share experiences (Cohen, 1981), in environments where young teachers are not encouraged to cover up their errors, and where principals have clear professional goals, are capable of allocating staff appropriately and helping teachers create and exchange materials, do not interrupt the work of their teachers (Lortie, 1975), and assist in the removal of disruptive students from the classroom (Wynne, 1980). Competitive rewards, however, hamper collegial interaction (Bonoma et al., 1974; Deutsch, 1949, and Fay, 1970) and destroy trust.

Often competitive rewards do not arrive until the teacher has been working for seven to 14 years. In one urban district, the turnover rate exceeds annually 64% (Harris, 1982). Since it is often new teachers who are placed in "hazardous duty" sites, it is estimated that 50% of teachers now in their first year of service will not be there in seven years. Approximately two-thirds of the teachers who leave do so in the first four years (Schlechty and Vance, 1983). Career ladders and other incentive programs are intended to address these concerns, but the following pitfalls characterize such efforts, as summarized from Rosenholts (1984):

1. Intrinsic satisfaction from working with students may far outweigh extrinsic rewards (money) provided by districts.
2. The organizational conditions of teaching in large measure determine teacher success. Programs must counter negative conditions (isolation, lack of administrative support) to be successful.
3. Competitive rewards for teaching excellence may accelerate professional isolation.
4. Increased focus on teachers' acquisition of skills as a program emphasis will be effective only as a vehicle for collaboration and staff development.
5. Staff development should be separate from decisions about promotion.

In summary, working conditions cause teachers to strike compromises that are counterproductive to a successful experience. They are forced to "cut deals" in the curriculum because of the problems associated with compulsory education, which reflects a mindset of "You leave me alone, and I'll leave you alone" (Sykes, 1984). Although career-ladder programs have the potential to encourage effective teacher practice, they must be approached with caution. Every effort must be made to improve the root of the problem: inadequate base pay, limited professional interaction, and poor staff supervision.

Beyond the problems associated with the current profile of our teaching

pool, the impending teacher shortage, and the disincentives of the workplace, another set of conditions will profoundly affect the caliber of teachers recruited to the profession and their ability to perform effectively in the school of the future. The conditions are societal in nature; they include shifts in the demography of America and the emerging technical revolution of our industrial society.

Future Contexts for Teaching

Haberman (1983) characterizes our pupil population as follows: One out of every six pupils is poor and one out of every four is member of a minority group. By the year 2000, most schools will have substantial minority, low-income, and handicapped populations. Spanish-speaking students will predominate in public education in Texas and New Mexico, as will Asians and Haitians in California, New York, and Florida. Every city over 500,000 in population will have a majority population of poor and minority students. The population shift to the Sunbelt will make southern cities grow faster, but growth will be burdened by populations of pupils who need special attention. In short, there will be considerably more ethnic diversity, and more of a gap between the "haves" and the "have-nots."

Howey (1984) profiles the demography of the current teacher population as 91% white, 6% black, and 1.7% hispanic. Yarger et al. (1977) portray the current teacher as provincial, coming from a small city or rural community, and monolingual (only 3% speak either Spanish or French). Five out of six attend college in their home state, with only one-third going more than 100 miles away to school. They seek teaching positions in suburban or small-town settings; of only one in three want to teach in multiracial sites, with only 12% preferring an urban placement.

The rising problem is easy to forecast: At a time when the country is becoming more ethnically diverse, the rank-and-file teacher is more parochial, usually female, and typically white. This situation is aggravated by reform agencies that emphasize more attention to academic study, increasing the pupil dropout rate and creating an educational underclass (Husen, 1983).

The rural setting carries a different, but no less important, set of problems. Snyder (1984) notes that in the 1970s the rural population grew faster than the cities; there was a migration to "exurbia," those areas roughly 25 to 100 miles outside of major urban hubs, where people moved to seek lower costs and a better social and economic ambience. This setting characterizes two-thirds of all school districts, and half of all public schools, and accounts for one-third of all teachers in the U.S. (National Center for Educational Statistics, 1981).

Because of the small size and physical and cultural isolation of these sites, teachers are required to take on broad professional responsibilities. However, rural populations have traditionally been ignored by policymakers and educators because of their political invisibility (Massey and Crosby 1983). In contrast to the urban environment, rural stresses are that few teachers are prepared as generalists, access to information and materials is limited, teachers who are not familiar with the community may not fit in, and staff development is difficult and costly.

Complex demography is not the only major new condition of the 1980s and '90s. Snyder's (1984) futuristic report to the National Education Association presents major demographic, economic, and technological trends and developments that will shape the educational operating environment in the next 10 years, an essentially post-industrial environment that will pose significant pressures

for schools. The conditions of work reflect one dimension of this new wave. Because of "baby boom" demographics, there will be too many people in the work force and no promotions. This generational crowding will mean more adult education and life-span learning. Further, 65% of all mothers will be employed, causing more flextime jobs and job-sharing. Working mothers will also cause the ranks of latchkey children to burgeon, placing more responsibility on schools to deliver institutional care for infants and children.

Further, the economy will continue to move toward stagnation, double-digit interest rates, and no new funds for schools. Because of international competition in the business sector, the workplace will have to change from an adversarial to a collaborative approach. Schools will experience reduced capital and will have to implement cost-effective educational expansion and reform. In a new but related direction, two-thirds of the society will own computers. This will create, if anything, a new generation of technologically handicapped citizens: There will be a steady diminution of the middle class, replaced by a high tech/low tech socioeconomic caste system. Consequently, the work force that comes from schools must be "technologized." Because of the low capital available, schools will not be able to afford current modes of instruction. Methodological initiatives to increase the productivity of formal education will have to include modularized instructional materials, peer teaching and tutoring (to reduce the pupil-teacher ratio), and "precision teaching" involving weekly measures of student achievement. More materials will have to be self-paced mastery tasks, involving clear structures (maps and outlines) and using revised texts and concrete examples.

In addition to the technological revolution, schools will have to bear the effects of an overeducated, underemployed work force. There will be a

decline in the availability of meaningful work; jobs will be of a technical nature and most of us will be overtrained. We will be "teaching people how to lead self-fulfilling lives in non-fulfilling careers" (Snyder, 1984, p. 24). Skills that apply for the next five to seven years will not be needed beyond that time. We will be teaching adults to prepare for sequential careers, where they will not be able to transfer our intellectual capital or their earning power from one job to the next. Education's role will be to help society adjust to change, through a basic understanding of the future. A technologically informed population, a retraining of 10 to 20% of the adult working population annually, and computer literacy for all will be needed.

Conclusions

This introductory treatment of teacher recruitment and selection has attempted an integrated perspective on contextual issues that affect the nature of our teacher pool, supply and demand trends, the effects of higher standards, the need for increased incentives, and the condition of schooling in the future. Lanier draws the dilemma in bold relief:

The U.S. commitment to mass schooling makes the teaching force so large and so common, in fact, that the U.S. must look to more or less average students, as well as to the highly talented, if it is to acquire enough teachers for its classrooms. Such awareness should help, as Brundy (1980 p. 448) suggests in another context, "understand why the goal of putting an inspirational teacher in every classroom is one of the great mischievous illusions of our times" (Lanier, 1984, p. 39).

We see a demography of essentially white, female, middle-aged teachers, characterized by most reports as less academically talented, attempting to meet the demands of an increasingly ethnically diverse school population in the face of great social upheaval in our transition to a highly technologized society. There is considerable activity across the 50 states to improve the quality of the teacher pool through higher standards and stricter entrance and exit

requirements. These may further reduce the supply of teachers for a workplace complicated by a series of occupational disincentives.

From this analysis of trends, we extract the following summary statements:

1. The role of the teacher is extremely complex, requiring exceedingly diverse skills and abilities. The extrinsic rewards are limited, though intrinsic satisfaction is high.
2. Career development is atypical in that teachers enter the generativity stage of their career much earlier than most professionals and reach professional stagnation prematurely.
3. Attempts to enhance teacher career development have allowed us to perpetuate a set of myths that assume the existence of adequate incentives and rewards for pursuing professional improvement.
4. The profession of teaching captures 7.5% of the college graduate market, of whom only 27.7% are male. Only 6% are black and 1.7% are hispanic. Of those scoring in the highest quartile on standardized tests, 11% go into teaching; from the lower quartile, 38% go into teaching.
5. Of those prepared to teach, 30% do not ultimately take teaching positions. Of those who score in the top 10% on basic skills tests, 37% leave the profession after six years; 60% from the lower quartile are still in teaching after the same period of time.
6. There are approximately two million members of the teaching profession, but trends suggest that by 1990 we will need 220,000 new teachers annually, and the projected pool of teacher applicants is only 160,000. Although supply/demand trends vary across subject

areas, we will face a general teacher shortage in the next decade.

7. Thirty-two states now require some type of competency testing for teachers; 23 states require state-approved university admissions policies, with 21 more states soon to follow. Of 356 institutions polled in 1984, 64% use screening tests for admissions.
8. Tests of teacher knowledge are the source of much controversy, because there appears to be no significant relationship between the knowledge and skills tested and knowledge or content presumed useful to the preparation of teachers. Further, the difference in pass rates between minorities and whites suggests that most tests in use are linguistically and culturally biased.
9. Although the cost of and public support for testing procedures remain attractive, other incentives for assuring a quality pool of teachers are being implemented in some states. They include alternative routes to certification, scholarship and fellowship plans, merit pay, career-ladder and master teacher plans and, in a few instances, major changes of certification and program approval standards.
10. By the year 2000, most schools will have substantial minority, low-income and handicapped populations. In contrast, only one in three teachers indicates a desire to teach at a multiracial site.
11. Other major demographic, economic, and social trends portend increased female activity in the workplace and greater responsibility for schools in areas of child care, adult adjustment to sequential careers, and reskilling of graduates to meet the specifications of a technologized society. Fewer resources will be available to meet these demands.

The career incentive plans are modest remedies, although they do offer visible symbols of achievement and reward. Proposed base-pay adjustments for teacher salaries are another popular antidote to the disincentive problem, but they are no substitute for seeing ourselves as valued professionals. Our goal is to attract higher percentages of top-quartile, gender-balanced, and culturally diverse and competent teachers. If we are successful in this reconstructive reform agenda, other structures must also be put in place to meet the demands of a brighter candidate pool: more thoughtful programs of preservice and induction, better vehicles for alleviating the daily disincentives of the workplace, and increased opportunities for professional development and leadership.

Analysts in this area suggest that reducing the disincentives and dramatically increasing the incentives will somehow transform the current context for teacher selection.

Recommendations

In addition to the goals discussed here, attention should be given to the nature and quality of those candidates who enter and graduate from our preservice programs. We recommend the following as first-order priorities for the Laboratory with regard to teacher selection, recruitment, and retention:

1. Collaboration with those institutions of teacher preparation, especially within the region, that have previously shared their institutional efforts in assessing the nature and quality of teacher education students in order to enable continued networking and annual meeting. This informal network of over 40 institutions, many of them in this region, met previously in a conference sponsored by the American Association of Colleges for Teacher Education (AACTE) and Illinois State University. NCEEL could assist in

sustaining this effort toward systematic examination of both entrance and exit characteristics.

2. The design and development of a regional database that can more accurately project teacher needs at present. These manpower projections should take into account such factors as projected early retirements, the effects of changes in recertification requirements, numbers of temporary teachers, and misassignments and dislocations created by specific urban and rural needs. Additionally, supply and demand studies should allow for differential needs across subject areas.

3. A prior technical report on the nature of competency tests being used both as entrance and exit examinations in teacher preparation institutions, and as prerequisites for licensure. Although regional developments are critical, it is also important to include in this analysis states or regions with substantial experience and data from extant test administrations (e.g., the Southern Regional Education Board, the California Testing System). Analysis should focus on the power of such tests to predict successful classroom instruction. A corollary to this effort would be a policy study of the effects of these various tests at different institutions and in various parts of the country.

4. A prior synthesis of alternative routes to certification, designed to attract into teaching high-quality graduates with majors other than education. This project would encourage longitudinal description and assessment of the impact of these alternative devices in staffing K-12 classrooms.

5. A survey of promising practices, both nationally and in the region, whereby special incentive programs are created to attract a high-caliber teaching pool. Fundamental to this analysis are an understanding of the

disincentives to teaching and an identification of dimensions of teaching that the teaching population truly regards as incentive-oriented. We propose that the Laboratory coordinate its efforts with those of the AFT/NEA as well as with regional Local Educational Agency (LEA) and State Education Agency (SEA) initiatives. Ultimately, the Laboratory could be pivotal in disseminating promising practices and policies vis-a-vis incentive plans and activities.

PRESERVICE TEACHER EDUCATION

Overview

Teacher education has become a major issue in the reform movement. Policymakers see poor teacher education as the culprit and legislate rules and regulations "to ensure quality education for the children of the state." Classroom teachers give support to the notion of improving teacher education. Clearly, there are dimensions of teacher education that need examination, clarification, and improvement. This section of the paper examines the context of preservice teacher education, the individuals involved, and the curriculum that currently exists. It will include an analysis of those factors that impinge on the environment or context for teacher preparation and an analysis of several major issues that impact on the programmatic thrusts extant in teacher education programs.

Contextual Concerns

Teacher education programs are controlled to a great extent by larger institutions in which they reside and by the state departments of public instruction. National attempts to ensure quality in teacher education have met with resistance for a variety of reasons. In a two-year nationwide study of teacher education programs, Clark and Guba (1976) found many of the contextual conditions that still characterize teacher education today. Teacher education programs exist in university environments where the formal and informal rewards system, especially in institutions with graduate-level programs, emphasizes traditional forms of faculty productivity, research, and writing. Yet the external climate for teacher education (formed largely by the needs of practicing teachers) emphasizes knowledge utilization, through more effective collaboration between schools and colleges to improve instruction. This

paradox of goals is intensified by the culture of academe, which fosters the professor's "self-actualization" as a major lifestyle, as opposed to the social service function of teacher education work in local elementary and secondary schools (Clark, 1977). The rewards system prevalent in institutions of higher education is often in conflict with the needs and demands of their public school clients.

Contextual ambience is further disturbed by the placement of teacher education programs in universities. "In almost all institutions, preservice programs for teachers are designed as an integral part of the undergraduate offerings" (Clark and Marker, 1975, p. 55). This design allows the teacher education program to be fitted in with the total undergraduate offerings, so that students may pursue simultaneously teacher preparation and other institutional agendas: liberal arts basic requirements, development of a major subject area of specialization, and elective courses. The implication for most SDEs is that their budgets are typically determined by instructional head count, rather than on the basis of their knowledge production and utilization function (a measure more typical of graduate-level instruction).

Because of the embeddedness of teacher education programs in the general undergraduate course of study, "most undergraduates in preservice teacher preparation programs have a low level of professional identification with the field of education and the school, college, or department of education" (Clark and Marker, 1975, p. 56). In particular, students majoring in secondary education often spend a very limited number of hours in education-specific courses (perhaps 6 to 12 semester hours) before they become student teachers. Their identification, resides instead with the subject area in which they specialize. Clark (1984) refers to this embeddedness as the "charm" of teacher

education. This charm is easy accessibility in every sense: it is geographically proximate to the consumer, easy to enter, short in duration, optimally convenient to other parts of the student's academic program, easy to complete, inexpensive, nonexclusive (it does not rule out other career options), and until recently, it assured the graduate a reasonably good chance for employment.

Another dimension of the institutional condition of teacher education is its status within the larger milieu. As Clark and Marker (1975) noted, "teacher training is a low-prestige, low-cost venture in almost all institutions of higher education." Lanier (1984) posits that there are several reasons for this low support/low status position. First, because teacher education programs are a composite of course requirements from at least two major areas outside the SCIE (the general studies and major content areas) and because some programs offer teacher education programs that are not typically housed in SCIEs (e.g., agricultural education, home economics education), there are, in her words, "too many warring factions in control of small pieces of the enterprise" (p. 108). Teacher education is "everyone's and no one's responsibility, and its power thus remains diffused" (p. 115).

Teacher education also suffers from a perceived weak knowledge base, continues to be viewed as a nonprofession, is weak politically because it serves women and children, and cannot be selective about its clients. Consequently, its faculty cannot compete with either the best professional schools or the arts and sciences (Judge, 1982). Sykes (1983) referred to teacher education programs as the "intellectual ghetto." Clark concluded that other professors judge teacher education students to be of low quality and are aware of the program's low support level from the university, and therefore quickly

surmise for themselves that teacher education is not a quality program.

Problems with status are not unrelated to the financial condition of teacher education. In the first place, expenditures for teacher education are geared at the general undergraduate baccalaureate level. This presupposes that teacher education can be conducted in the lecture discussion mode, like many survey/lecture courses in the liberal arts. Rarely do other professional programs carry the same assumptions. For instance, the state funding formula for Texas uses a joint index to determine allocations for various programs. Against this "complexity index," the lowest-funded programs are at the 1.0 level, teacher education is at 1.04, agriculture at 1.51, engineering at 1.51, and nursing at 2.74 (Peseau and Orr, 1980). In other comparisons, Peseau and Orr show that teacher education received only 50% as much funding as other undergraduate programs, and only 65% of what is expended for public school per-pupil rates. Specifically, the teacher education per-pupil expenditure is \$927, the average full time equivalent (FTE) university expenditure is \$2,363 and the average public school per-pupil expenditure is \$1400 (Peseau and Orr, 1980). It is obvious that teacher education programs subsidize many other programs in the university.

Also, state funding formulas are historical in that the number of previous student credit hours drives future funding levels. Education may generate larger subsidies because of sheer size, even at a lower rate (Temple and Riggs, 1978), but these funds are often reallocated against different criteria once the funds reach the university (Orr and Peseau, 1979). Peseau and Orr suggested that teacher education accepted expanded responsibility without expanded resources, often because of its inability to define goals adequately enough to request additional support. Both Clark and Markor (1975)

and Kerr (1983) predict that this condition will not change until teacher education is moved out of undergraduate education. In essence, teacher education has little time within the undergraduate program to adequately prepare teachers, severe limits on the resources available to support these needs, and essentially nonfunctioning programs at the secondary level. Clark (1984) observed that "underfunding a program that has other major disadvantageous structural and demographic characteristics is akin to providing the least support to public schools serving disadvantaged school populations" (p. 15).

In 1977, Clark reflected on whether teacher education should attempt major efforts to restructure its place in the university setting. "The power of the intervention that would need to be mounted to modify significantly the reward systems in colleges and universities (even if that were deemed desirable) would amount to a major, new national policy for higher education" (p. 9).

More importantly, the traditional rewards for scholarship are exactly the factors that make certain institutions so successful as producers of new knowledge. These are not the conditions we should seek to change. Instead, we largely endorse the agenda of major structural reform that Clark (1984) proposed at the institutional level:

1. Limit entrance to teacher education programs to post-baccalaureate students who hold a liberal arts degree with a subject matter major.
2. Require a minimum of one academic year of concentrated study and practice leading to the master's degree for preservice teacher preparation.
3. Modify standards for state accreditation of teacher education programs to ensure that institutions offering such teaching can exhibit a program that is "systematically organized, research-based, and practitioner oriented" (Gideonse, April 20, 1984).
4. Increase the level of intrainstitutional funding for teacher education programs to that characteristic of other comparable post-baccalaureate fields of training.

5. Restrict admission to teacher education programs to students who have exhibited a reasonable level of academic proficiency in undergraduate studies and who assert and have exhibited a commitment to service and achievement appropriate to a professional field (p. 18).

Clark's reform agenda draws attention to several issues being debated with regard to the curriculum of teacher preparation programs. He draws attention to prerequisite liberal arts knowledge, intensive study of pedagogy, and the research knowledge necessary to sustain inquiry-based programs, as well as issues of funding, and recruitment and selection previously addressed in this paper. The remainder of this section will address only the curricular issues raised by Clark and others that are deemed relevant to teacher preparation curricula.

The Teacher Preparation Curriculum

Overview. This section addresses problems associated with teacher education curriculum as identified in our selected review of the literature. It should be noted again that much of this literature is nonempirical in nature and includes critical analyses and descriptions of various programs, policies, and practices. Neither well-designed studies of preservice teacher education nor many reviews of the studies that have been conducted are common. The writers were, however, able to identify three recent reviews of research on preservice teacher education: Koehler, 1984; Evertson et al., 1984; and Lanier 1984.

In the most exhaustive analysis, Koehler reviewed over 200 research studies, broadly defined, on preservice education. She concluded that there is a knowledge base to guide practice and future research. She acknowledged, however, that research up to that time was invariably funded at very modest levels and was often fragmented and particularistic in nature. In addition, the "research" was commonly instrumental in that it was designed largely to

advance a program, an institution, or a special interest group. She concluded that the cumulative research raises as many questions as it answers and identifies data gaps as much as it describes practice in any inclusive or detailed manner.

The bootstrap nature of research into preservice teacher preparation is also reflected in responses by institutional representatives to a national survey of teacher education (Hewey et al., 1978). These investigations found that only about one in five programs (22%) was associated with any form of research or development structure designed to study teacher education. Only one in 10 programs that prepared elementary or secondary teachers was identified as affiliated with either an internal or an external research agency. Just one in 15 programs reported some affiliation with the lab and center network in existence and funded by the National Institute of Education at that time. Thus, most research on teacher education was undertaken by individual faculty or doctoral students.

Evertson, Hewley, and Zlotnik (1984) suggest that the number of studies of teacher preparation in the last decade has, in fact, diminished from the previous 20 years. They concluded after their reviews:

It is commonplace to say that research on important topics related to education is limited but limited is too fulsome a way to describe the empirical research on teacher preparation. Not only is the body of research small, it is methodologically and theoretically anemic. For example, the sample size is often small, and both dependent and independent variables are seldom well defined or fully specified and analyses seldom control for potentially important interactive effects of related independent variables. (Evertson, Hewley, and Zlotnik, 1984, pp. 1-2)

Lanier (1984) takes a broader and more historical perspective in examining research on teacher preparation. She suggests that such research is gradually acquiring some breadth and depth but that many basic questions remain. She does assert that the major issues and controversies surrounding

research into teacher preparation curricula are at least illuminated in the literature.

Hwey (1984), in summarizing survey literature into teacher preparation, identified the following concerns or issues as common:

1. Professional programs of teacher education are characterized by their brevity; the total time spent on actual face-to-face instruction for future teacher is commonly less than that for trainees in semiskilled trades.
2. Professional programs, from the distance of survey literature, appear quite homogeneous. In a profession characterized historically by disparate philosophical, sociological, and psychological perspectives of the nature of teaching and learning, and in a society founded on the implicit strength of pluralistic thought and lifestyles, programs of teacher preparation which reflect obviously planned variation or test alternative training technologies are exceedingly rare as described in the literature. (What actual differences exist, especially at the individual course level, are unclear given the lack of investigation at this level.)
3. Organizational structures to support research and development are sparse and those which do exist appear underutilized with respect to study that has been conducted into teacher preparation.
4. Preservice programs are almost always labor-intensive, technologically impoverished endeavors; even relatively simple procedures such as microteaching and forms of simulation appear to have declined in recent years.
5. Recent efforts toward more comprehensive program development have achieved but limited success. This lack of programmatic change can be attributed to a variety of factors, including those which are organizational, political, and economic in nature. Not the least of these problems, however, is a fundamental lack of clarity about relevant and realistic teaching roles and equal uncertainty of just what, at various stages of teacher development, constitutes competence.
6. There is little concept of collaboration — despite the considerable rhetoric — between different professional constituencies, institutions of higher education, and local education agencies in initial teacher preparation. The notion of school practitioners themselves assuming a more active role in curriculum development and instruction for preservice teachers — as sensible as this notion might be — appears to be remote at this juncture in time. The social collaborative condition in preservice is to identify "cooperating" teachers who for a very modest stipend will take on a student teacher. It must be said that there has been little vision exhibited toward the concept of the professions working together toward the improvement of teacher

education specifically and education personnel development generally.

It is hardly a question, then, of whether there is a need for more research and development relative to beginning teacher education, but where—given considerable options—intervention might contribute to better understanding and alleviation of a series of interrelated problems which continue to be compounded (p. 17).

This section of the report focuses on the curriculum of teacher preparation and the instruction and activities for learning attached to it. Our intent is that the literature reviewed here will be of assistance in establishing how a number of relatively complex, interrelated problems pertaining to preservice teacher preparation in the region might best be addressed. Curricular issues we have identified in the literature include the notion of program coherence, balance among and integration between the liberal and technical studies, the nature of extended programs, the scope and quality of laboratory and clinical experiences, relationships with K-12 schools, and clinical pedagogical content. Again, the literature reviewed speaks more to the need for research to help resolve these issues than to research that has been conducted on them.

The lack of programmatic coherence. Although the concept of programmatic coherence has not been widely addressed, we consider this a problem of the first order. Purkey and Smith (1982) in their excellent review of what is commonly referred to as the school effectiveness literature, conclude that a school's culture or climate appears to be the determining factor in its success or failure as a place of learning. Characteristics of a productive school culture they identified include: Collaborative planning, good collegial relationships, sense of community, and clear goals and higher expectations commonly shared. We add to these what Purkey and Smith refer to as an organizational or structural characteristic: thoughtful curriculum articulation.

We suggest that this same set of conditions likely contributes to productive learning in progress of teacher preparation just as it does in K-12 schools. Available evidence, however, indicates that many "programs" of teacher preparation 1) place modest expectations on their students, 2) are defined by a largely independent set of courses, 3) reflect minimal collaboration among faculty, and 4) inspire little sense of community among students and faculty. Lanier (1984), for example, draws upon the work of Lortie (1975) in examining the concept of commonly shared high expectations in preservice education:

Related to the absence of shared ordeal is the presence of "eased entry" (Lortie, 1975). The time needed to qualify, the arduousness of the preparation, and the complexity of the skill and knowledge base needed for full membership in teaching are all low. The teachers Lortie interviewed described their training as easy, and he reports the absence of a single complaint "that education courses were too difficult or demanded too much effort" (p. 160). Neither did the teachers perceive their preparation as "conveying anything special--as setting them apart from others," and, further, the teachers did not "consider training a key to their legitimation as teachers. That rests in experience" (p. 169). (Lanier, 1984, p. 80)

Ryan (1980) contended that teacher education program decisions, namely the content and process of undergraduate education, are rarely if ever derived from theory. He suggested that teacher education content is a camel, the product of a committee instead of a cohesive and coherent program:

. . . these creatures of committees are clumpy and lumpy, made by so many people with different views of the human condition and learning, teaching, and the characteristics of skillful teachers. In effect, a teacher-education program is a compromise of these many views and, sometimes, of many powerful factors (p. 1)

Stutes (1975) addressed this same problem and reminded us that major advances in professional preparation in complex fields of study invariably have resulted from theory. Hovey and Zimpher (1985) do identify four theoretical orientations that appear to provide thematic articulation across courses and

faculty commitment to a more explicit mission: 1) developmental orientations, 2) personalistic orientations, 3) socio-cultural orientations, and 4) pedagogical skill or competency orientations. We do not propose these orientations as alternative programs; rather, we suggest that all four can serve as major organizing elements in teacher preparation curricula. Like threads, they can run throughout the curriculum tying together diverse strands of activity across subjects and among professors. As different points of departure, they can contribute to a greater sense of collegiality, more faculty planning, and clearer expectations. Given the importance of school-level variables as identified in the school effectiveness literature, it would seem that this is a most fertile area for research and development in teacher education.

In summary, then our first major concern relative to programs of teacher preparation is how to achieve better program coherence and a climate conducive to successful learning.

Liberal-professional education versus technical-professional education¹

There is little doubt today that the emphasis, especially in continuing teacher education or staff development, is on the technical aspects of teaching (Hosey, 1984). The concern that teacher education is too technical in nature is not new; in fact, it precedes the days of the normal schools. Dasey (1904) stated the problem over 75 years ago:

For immediate skill may be got at the cost of power to go on growing. The teacher who leaves the professional school with power in managing a class of children may appear to have superior advantage the first day, the first week, the first month, or even the first year, as compared with some other teacher who has a much more vital command of the psychology, logic, and ethics of development. But later "progress" may with such consist only in perfecting and refining skill already possessed. Such persons seem to know how to teach but are not students of teaching. Even

¹ We acknowledge Judith Lanier for this liberal-professional/technical-professional distinction.

though they go on studying books of pedagogy, reading teachers' journals, attending teachers' institutes, etc., yet the root of the matter is not in them, unless they continue to be students of subject matter and students of mind activity. Unless a teacher is such a student, he may continue to improve the mechanics of school management, but he cannot grow as a teacher, an inspirer and director of soul-life. How often do candid instructors in training schools acknowledge disappointment in the later careers of even their more promising candidates? They seem to strike twelve at the start. There is an unexpected and seemingly unaccountable failure to maintain steady growth. (p. 9)

We find that 1) a good education in the core disciplines is essential not only to effective teaching but to more authentic professional status as well and 2) certain attitudes and perspectives are not likely to be achieved as Dewey suggests, at a later time if they are lacking. The pedestrian image of teachers today has much to do with the perceptions, if not the reality, of inadequate attention to these core disciplines in their preparation. We believe that how links are established between general studies and professional studies considerably influence the image of teaching one has. Madina Green (1984) eloquently expressed her concern over the narrow, misguided conceptions of excellence today and argued for the centrality of the arts in teacher education:

... I think, in this highly technical period, this technicized ascent of time, that we as teacher educators and teachers are all concerned about the seductions of the purely linear, the depersonalized, the morally neutral. Thinking of excellences in relation to the range of capacities and the multiple intelligences mentioned above, I would argue for enhanced attentiveness to ellipses and to Bach and to birdsong in whatever guise or order is appropriate for learners whose attention is directed to their worlds.

If there were time, I would argue for an increased centrality for the arts in teacher education and in the schools as well, and for an emphasis on informing awareness so that more and more art forms may be actively realized by diverse human beings in search of meaning, in search of clarity, in search of themselves. I often think of engagements with Stevens and Cezanne and Mozart and Alice Walker and Tyla Sharp and Tennessee Williams and so many others as paradigmatic for all learning because of the demand they make that the beholder or the listener be there in person, that he/she make an active and authentic effort to achieve the work, to bring it into existence for himself or herself.

It is paradigmatic too because work must be done to realize it, the kind of work that involves a break with the conventional and the ingrained (as Dewey put it), that opens to unsuspected possibility. (p. 11)

How can the arts and other core disciplines become more central to teacher education, more integrative with professional studies? George Kessler, (1980) in an excellent treatise, reviews how various core disciplines contribute in direct ways to the study of education and illustrates how literature contributes centrally to the study of teaching.

Under any consideration I still would make room for courses in literature and education. The neglect of literature by educationists is incomprehensible. Like the historian, the philosopher, and others in humane studies, the creative writer gives us knowledge of how to live. The writer embodies knowledge of human beings and education in a tale that moves our imagination and emotions as well as our intellect. Writers make us see and feel what it is like to educate and be educated in different times and places. Charles Dickens, for example, portrays 20-odd schools and refers to several more. He also depicts a dozen types of coercion in child training. In *House in Rome*, D. H. Lawrence, a former elementary school teacher, gives us a riveting portrayal of a lesson seen by a school inspector. Especially since World War II education has become the central theme and setting of many novels. For portraits of teaching, learning, classroom interactions, and the joys and miseries of childhood and adolescence, we can do no better than study such works as Marjorie Spack's *The Prince of Miss Jean Brodie*, John Home Brown's *Lucifer with a Match*, Frances Patton's *Good Morning, Miss Dove*, Herman Wouk's *Marjorie Morningstar*, and many others I could name. . . . (p. 11)

Several questions deserve further study here. What should constitute a preprofessional program for prospective teachers? What breadth and depth of study in the arts and sciences are desirable? Should all teachers, not just secondary teachers, be required to pursue the equivalent of a major area of study? If so, what might these be for different types of prospective teachers such as elementary majors? And finally, how is it possible to achieve better bridges than presently exist between core disciplines and their application to education, as illustrated by Kessler in the example of English literature?

Again, we fully realize that such questions are not amenable to research. Neither are they priorities in the mission of this laboratory. In this paper, however, our primary purpose is to review literature that raises important policy issues pertaining to all phases of teacher education. While attention to the staff development needs of certified teachers is a priority for the laboratory, to wholly neglect how teachers are prepared initially would be unwise, for the nature and scope of initial teacher preparation are major determinants of later professional growth needs. The laboratory will focus primarily on disseminating research-based guidelines and leadership training for staff development and improving incentives to attract and retain quality in the personnel pool. But we are encouraged that some of the related preprofessional issues will be addressed in NCSEL's action research on the curriculum of the preservice and induction stages of professional development.

These preprofessional studies are beginning to receive the increasing scrutiny from SCDE researchers and policymakers. Several have already proposed teacher preparation that builds upon four years of study in the arts and sciences. The Study Group on the Condition of Excellence in American Education, for example, recently emphasized the importance of liberal education and advocated treating teacher education as an honors program extending beyond the typical four years of study. The question of how to achieve a better balance and integration of liberal and technical studies will, we hope, be addressed more fully. The Laboratory can assist in stimulating this dialogue.

Extended programs. Support is building across the country for the extension of teacher preparation beyond the baccalaureate level. Kerr (1983) and Clark (1984) have observed:

"To be understood, the content, standards, and control of teacher education must be placed within the inhospitable (sometimes hostile)

environment of undergraduate education (Farr, 1983, p. 133)....Teacher Education can only be as good as its placement on the undergraduate level allows, and that is not very good" (p. 139). (Clark, 1984, p. 10)

Others have suggested a second and even a third year of post-baccalaureate study. This is an issue of major consequence in terms of not only how teachers should be prepared but who will prepare them. Not all arguments are for extended programs, of course. Tom (1984) characterized extended programs as a solution in search of a problem and raised the following questions:

In brief, there is no standard version of extended teacher preparation; the assumption which ties together the various alternatives is that everything needed by the contemporary teacher cannot be taught within a four-year curriculum. But will more field work, more academic study, and more pedagogical preparation yield teachers who are distinctly superior to the products of four-year programs? I think not. The problem with our current approach to teacher preparation is not under preparation but rather ill-conceived preparation (emphasis added). Moreover, our failures lie not just in the areas of pedagogy and field work but also in the academic preparation of teachers. First, let us turn to the weaknesses of the professional curriculum.

The pedagogical curriculum and its related field experience components have been remarkably stable for the last 50 years. The typical student takes separate courses in psychological foundations, social foundations, general and specialized methods, and student teaching. There is little interconnection among these components, each of which is taught by specialists, and the major field work experience comes at the very end of the program. During this culminating student teaching experience, students are expected to apply professional content and skills to the classroom context, despite the tendency for the university supervisor and the cooperating teacher not to be well informed about the remainder of the professional curriculum. Will it do any good to "extend" an aged and fragmented professional curriculum which is under the direction of specialists who are largely unaware of their colleagues' efforts? (p. 3)

The problem from our perspective may well be as much one of ill-conceived and uninformed preparation of underpreparation. A fundamental problem is that no one can generalize with good data about what actually occurs from institution to institution and program to program. There is little doubt that teacher preparation curricula could be expanded in a variety of ways; there are, of course, experiences that could be omitted as well. But in which ways, in what

sequence, and in what configuration with what experiences in the schools new curricula should be introduced are questions for which few answers exist.

We do have descriptions of preservice programs in terms of the number of courses and the number of hours spent in schools. Various courses are described, at least in general terms. General descriptions are available of variations in curriculum, alterations in student teaching, specific laboratory experiences and even structural alterations where teacher preparation curricula have been moved to a fifth year. We do not, however, have any fine-grained analyses of the content of teacher preparation. As we indicated earlier, minimal attention appears to have been given to such important factors as the major goals of a program and the theoretical and empirical foundations it is built on. Curriculum articulation within the professional studies, let alone between professional studies and the arts and sciences, is rarely addressed in the literature. How the curriculum is transformed into student opportunities for inquiry and practice is also unclear.

In summary, a requisite step in any major structural change in initial teacher preparation is a more complete understanding of current practice. This involves further consideration of the basic questions: Just what is it we are looking for, and how can we determine if it is there in programs of preservice? Doubtless good models of teacher preparation exist, but as a first order of business we need more clarity on what constitutes "good" and, of course, a more detailed description of what exists. Certainly, the Laboratory could support more in-depth and fine-grained analyses of teacher preparation efforts in the region.

The clinical component of preservice preparation and the roles and responsibilities of those in schools. Perhaps the most common alteration in

recent years in preservice programs has been to increase the number of hours of pre-student teaching and student teaching experiences. This additive approach, however, may well have exacerbated problems as much as it has alleviated them. From the perspective of campus-based teacher educators especially, these additional school-based experiences do not accommodate well what Katz et al. (1981) labeled the "feed-forward problem:"

All preservice training can be characterized as anticipatory socialization, which inevitably involves giving students answers to questions not yet asked, and not likely to be asked until students are in the thick of actual service. This aspect of socialization can be called the feed forward problem. It includes resistance from the student at the time of exposure to given learnings and, later, protestations that the same learnings had not been provided, should have been provided, or should have been provided in stronger doses (p. 21).

These data suggest that many of these school experiences reflect minimal planning. Joyce et al. (1977), for example, found that student teachers across the country reported little congruence between the goals espoused in the teacher preparation programs and those held by cooperating teachers or among philosophies of teaching in general; only 38.3% of the preservice students reported curricular goals as similar and only about one in four (25.6%) perceived the teaching philosophies they encountered on campus and in schools as similar. This is not surprising since ongoing personal and programmatic relationships between schools and colleges of education and K-12 schools and teachers are rare, as we reported earlier.

One could expect, given the major responsibility of "cooperating" teachers, that they would be selected with considerable care, given specialized training, and substantially reimbursed for their efforts. This is simply not the case. After examining data about student teaching policies and practices, Howey et al. (1978) wrote:

Fewer than one-fifth of the department chairs reported level of experience as a teacher, advanced training, or previous supervisory experience as the most important factors in the selection of cooperating teachers. Instead, the general reputation of the teacher and a willingness to work with student teachers appear to be the chief criteria for selection.

It may well be that the role lacks appeal for many teachers. A sense of professional responsibility on the one hand and the reciprocal assistance provided by the novitiate in the classroom on the other appear to be the basic incentives for assuming such a role. Certainly, the modest honorarium provided in half the institutions to cooperating teachers has but limited drawing power, to put it mildly. The average program offers \$30 but many provide none. (This figure has risen but only modestly in recent years). Various in-kind considerations and faculty assistance to teachers of one type or another are provided to some degree. No one practice is common, however, and there are considerable differences in terms of what is provided to teachers. . . . While the student teaching experience does appear to be the hub for some college-school collaboration, it would appear to contribute little to advancing school practices in the vast majority of cases. . . . (p. 35)

There is even less monetary support for faculty to work with students at school sites in the recently expanded pre-student teaching or early field experiences. It is extremely rare, for example, for funds to be available to reimburse teachers for their participation. Selection again appears to hinge primarily on the availability and willingness of practicing teachers to work with students in these shorter-term experiences.

One could infer, then, from the lack of care and attention given to these "clinical" experiences in many instances, that their educational value is problematic. Certainly, numerous references in the literature question their value. A typical characterization of these early experiences has preservice teachers engaging in largely pedestrian tasks (Hoy and Rees, 1977). Zeichner (1978) suggests that student teaching itself appears to embrace a rather complicated and subtle set of both positive and negative consequences. After reviewing the literature on student teaching, he concluded:

Consequently, the literature does not support the contention that practical experience in schools is necessarily beneficial; nor can it be taken for granted that more time spent in schools will automatically make

better teachers. There are definitely many decrements reported by student teachers in attitudinal variables by the end of their experience (e.g., self-concept). Probably the most clear and consistent finding from the research is that the cooperating teacher has a tremendous impact on the attitudes and behaviors of student teachers, an effect which in some cases is not desirable. On the other hand, the university supervisor seems to have little or no effect. (p. 59)

We suggested earlier that teachers be exposed to pluralistic values and modes of inquiry, including the aesthetic, the ethical, and the philosophical as well as the empirical. Gidycz (1984) speaks to what is likely a considerable gulf between the analytical conception of teaching which employs such modes of inquiry, and what occurs in many instances in these field experiences:

If teaching depends on intellect and analytic capacity what, then, is to be made of the tremendous emphasis teacher education has placed on field experience and practical? Why do we talk so much about apprenticeship models in the training of teachers? How should we understand our students' own enthusiasm for their practice teaching experience in the light of empirical evidence which suggests that the net effect of these experiences is to produce premature closure on and less-than-reflective application of lower-level instructional strategies? . . .

. . . Let us look at a real apprenticeship program. I would guess it will come as much of a surprise to you as it did to me that electricians in apprenticeship programs in Cincinnati spend more hours in class instruction than my secondary education students do in the didactic portion of their secondary professional training program (which is half again as extensive as the average program nationally). Furthermore, the apprentice electricians spend a full 8,000 clinical hours under the direct supervision of journeymen electricians, nearly 27 times the equivalent clinical experience in student teaching! Moreover, no journeyman may ever assume responsibility for more than a single apprentice; the ratio, in other words, never exceeds 1:1! Such analytical comparisons may not be wholly fair; they are certainly provocative! (pp. 14, 15, 16)

While there is a history of research into student teaching, it is obvious that more study is needed here. Since this critical aspect of teacher preparation involves K-12 schools as well as institutions of higher education, the Laboratory could well devote some attention to the policy issues involved in various restructurings of these collaborative relationships to provide more adequate

field experiences.

Clinical pedagogical knowledge. Two areas of clinical pedagogical knowledge deserve specific attention in preservice teacher education: 1) the general pedagogical strategies that teacher educators employ, and 2) how instruction in various content areas is approached.

Recent, widely quoted books presenting data on the current state of schooling in our country vividly underscore the limited forms of pedagogy employed in most classrooms. These treatises include Goodlad (1984), A Place Called School; Sizer (1984), Horace's Compromise: The Dilemma of the American High School; and Squires, Huitt, & Segars (1984), Effective Schools and Classrooms: A Research-based Perspective. While a number of conditions within schools contribute in major ways to the limited repertoire of teaching approaches that many teachers use, it is also apparent that the dominant instructional format in high schools is modeled on programs of preservice teacher preparation — lecture and recitation.

In a typical finding, Katz and Rath (1982) found that professors of social studies methods employed a very limited range of instructional techniques. Their own instruction did not match that which they exhorted their students to pursue. This problem of limited pedagogy needs to be addressed first in preservice teacher education, as well as in staff development efforts. This is a classic example of how changes in preservice could dramatically affect the nature of later professional growth experiences. Significantly altering teaching behavior in various curriculum innovations has been found to be most difficult for experienced teachers (Fuller, 1969).

The work of Joyce and Weil (1976), who have identified a number of generic teaching models concerned with personal and social as well as cognitive

development, seems especially appropriate here. A second major resource would be what Evertson and her colleagues (1984) have identified as core teaching skills (CTS), derived from recent studies of teaching effectiveness. These core skills include: maximizing academic learning time, managing and organizing the classroom, structuring physical space, grouping students, changing the psychosocial structure of the classroom, and engaging in elements of active teaching. In addition to the materials reviewed by Evertson, other instructionally related research and its adaptation to training formats include: Essential Knowledge for Beginning Educators (Smith, 1983); The 1983 Summer Special Edition of the Elementary School Journal (Good, 1983); and the chapter by Jane Stallings in Changing Teaching Practices (1982).

In terms of the second area, content-specific instructional materials, Jones (1985) developed the concept of "the cutting edge."

The Cutting Edge refers to three types of research-based instruction: (1) model materials used by teachers and students to teach specific content objectives and study strategies, (2) generic, step-by-step instructional strategies and guidelines in textbooks and training materials for teachers, and (3) guidelines for those who design, develop, and evaluate instructional materials. All three types of research-based instructional materials are derived from theory and have been field-tested and evaluated using stringent criteria. These materials typically focus on helping students think about the meaning of what they read and the process of inquiry. We believe that if model materials and guidelines were widely used, they would have a major impact on teacher effectiveness and student outcomes. (p. 3)

Among the numerous examples of this type of research-based, content-specific instruction are found in the materials developed by Slavin et al. (1984), which promote team-assisted individualization in mathematics, and the materials developed by Anderson, Evertson, and Brophy (1979) concerned with teaching reading.

CONCLUSIONS

In this section, selected elements of teacher education programs were examined. Teacher education is embedded within a college or university context, which often creates tension between the universities and the education profession. This tension between the academic/research context and the practice/service setting is not unique to teacher education and can, in fact, be a positive force to improve teacher education programs. This tension can foster a closer examination of preparation programs and the conditions of practice. It can also stimulate dialogue, which is essential for growth. The interdependence of teacher education and the profession needs special emphasis in these times. The following summary of major conditions and issues drawn from our literature review are designed to contribute a further understanding of teacher preparation at this time and to enhance that dialogue:

1. Teacher education enrollments nationally have decreased by 35% in the past decade, while the actual number of institutions of higher education preparing teachers increased from 1,122 in 1973 to 1,287 in 1983. Whether many of these institutions have the capacity to provide sound professional preparation is questionable.

2. Teacher education is too often a low-prestige, low-cost effort existing within an institutional context that often constrains the professional preparation of teachers. The typical professional program of secondary teachers, for example, involves only three or four courses in education plus field experience. The average expenditure per education student is reported as \$927; the average cost for other majors is reported as \$2,363; and the average public school expenditure per pupil is reported as \$1,400.

3. Students tend to choose teacher education out of a desire to help others and make a contribution to society. They often tend to envision teaching as largely a craft to be learned through an apprenticeship approach and may have little appreciation for the professional knowledge base that undergirds teaching.

4. Teacher educators are largely white, male, campus-bound faculty. Research and development, especially focused on teacher preparation, is not common. What appears to be an excessively technical orientation in teachers is likely fostered by teacher educators.

5. Teacher education programs are characterized by their lack of conceptual and programmatic coherence. They tend to be brief and to involve the teaching profession only minimally.

6. Major structural changes in teacher education are being proposed without a clear understanding of current practices or a careful consideration of evolving changes in the larger social context.

7. There appears to be little relationship between student teaching experiences and the goals espoused in many preservice programs. Supervising teachers lack preparation and support, a circumstance that frequently has negative consequences.

8. There is little incorporation of validated instructional approaches into teacher education programs.

Finally, we return to a fundamental point too often ignored. Whatever skills and pedagogical abilities are seen as desirable for a teacher, these need to be framed within explicit conceptions of the teaching role. We argue that the role of elementary teachers especially is in many respects an unrealistic one. A basic consideration should be how conditions in schools

might be modified to create more realistic and effective teacher roles. This question has obvious implications for attracting quality people into education and for conceptualizing programs of teacher preparation.

Recommendations

Given the manifold recommendations for altering the nature, scope, and structure of preservice programs, there is a major need at the present time for: a) a synthesis of knowledge as to quality indicators of preservice preparation; b) the use of these quality indicators to obtain a more inclusive and fine-grained description of normative practice, policy, and conditions in a limited number of programs representative of the different types of institution in the region; and c) studied policy analyses of present and evolving conditions that portend changes in the next decade in the preparation of teachers. Thus, we recommend the following as priorities in the Laboratory's plan of action relative to initial teacher preparation:

1. A technical report that presents a synthesis of present efforts, several major in nature, designed to address quality standards for preservice teacher preparation. This synthesis should include the products of such groups as 1) the Holmes Group Standards Development, 2) Project Redesign attached to the National Council for Accreditation of Teacher Education (NCATE), 3) the work of the Chief State School Officers (CSSO) relative to teacher preparation standards, 4) the review of certification standards conducted by the National Association of State Directors of Teacher Education and Certification (NASDTEC), specific recent program approval and certification changes within the region, and 5) reviews of the literature on research into effective schooling, core teaching skills, and effective instructional materials, as partially addressed in this document.

2. Sponsorship of intensive and comprehensive field studies of three to five institutions in the region that prepare teachers. These field studies could be coordinated with the efforts of the AACTE Task Force on Research and Information and the proposed Goodlad study of schools and colleges of education. The quantitative data collected can guide qualitative study and result in a more coordinated, complementary approach to describe present efforts.

3. A technical report that analyzes the policy implications of major external trends and changes for teacher preparation efforts, including: major sociodemographic trends, rapid changes in technology, K-12 curricular "reforms", proposed changes in the arts and science preprofessional curricula, and altered staffing arrangements in schools, including variations on career ladders. Existing policy analysis resources, especially within the region, could be coordinated to accomplish this task.

4. The prioritization of slightly longer-range action plans for the following preservice initiatives:

- a. Assistance in describing policies and procedures that enable exemplary forms of collaboration and enhance the laboratory and clinical aspects of preservice teacher preparation.
- b. Assistance in policy studies of ways outstanding K-12 school personnel can be more adequately compensated and fully involved in preservice teacher preparation efforts.
- c. Assistance in the identification, further development, and conduct of staff development activities designed to expand and improve the teaching abilities of preservice teacher educators.
- d. Assistance in describing and disseminating empirically supported research findings and instructional materials focused on core teaching

skills (CTS) and appropriate for inclusion in preservice programs.

- e. Collaboration with AACTE and other sponsored efforts to obtain more precise data on expenditures for teacher preparation students relative to other majors at institutions within the region.

INDUCTION

Contextual Concerns

A review of literature on the induction phase of professional development suggests several points of departure for our analysis: the nature of problems identified by beginning teachers, concern over the lack of programming during this phase of teacher development, studies of pilot induction programs, and descriptions of exemplary models for induction programs. Veerman, (1984) reviewed studies concerned with the problems of beginning teachers and found the following eight most frequently cited: classroom discipline, motivating students, dealing with individual differences, assessing student work, relationships with parents, organizing classwork, insufficient materials and supplies, and dealing with problems of individual students.

In terms of career development (Super and Hall, 1978), induction is viewed as the trial period. Hawley and Rosenholts (1984) claimed the induction period is "so chaotic and absent of support that teachers often focus on instructional strategies that stress control over student behavior rather than the facilitation of learners" (Evertson et al., 1984, p. 35). Joyce and Cliff (1984) contend that the socialization process of learning to teach encourages teachers to invoke the "practicality ethic" and that survival concerns dominate classroom practice. The implications of the present form of induction are summarized by Houston and Felder (1982):

"When a new teacher becomes frustrated, anxiety-ridden, and exhausted, the students, and the entire profession suffer. New teachers must be inducted into the profession humanely, in ways that engender pride, openness, and increased professional competence and stature." (p. 460)

Three perspectives on the development of beginning teachers (Veerman, 1984; Evertson et al., 1984) serve as a basis for designing teacher induction programs. First is the recognition of the existence of developmental stages

of concern (Fuller, 1969; and Fuller and Boen, 1975). This perspective recognizes stages of teacher concern, from survival to improved teaching strategies to a focus on learner outcomes. These stages constitute the phases of induction and cross levels of experience. Therefore, both beginning and experienced teachers can expand their knowledge base by working in induction programs.

The second perspective, the cognitive development framework, focuses on the teacher as an adult learner. This perspective suggests a hierarchy from less to more complex cognitive abilities (Sprinthall and Thies-Sprinthall, 1983). It further suggests ways to identify levels of cognitive development and to work with adult learners who differ in cognitive ability.

The third framework, the teacher socialization framework, follows the work of Zeichner (1979); Zeichner and Grant (1981); and Zeichner and Tabachnick (1982); focusing on how beginning teachers adapt to the role of teacher, give meaning to their beliefs, adapt to the beliefs of others. It also incorporates Lacey's (1977) identification of social strategies used to conform to instructional demands. These approaches constitute vital references for the thought patterns and belief systems of beginning teachers and the impact of school context on these characteristics. They also pose frameworks for the development of inservice programs to meet the needs of newly inducted teachers.

Veerman (1984) observed that these problems and pressures require changes in behavior that are often contrary to the new teacher's belief system. The teacher's own recognized movement from a more progressive orientation to teaching to a more conservative stance and the changes in his or her personality from more stable to less stable can contribute to new teachers' ultimate decision to leave the profession.

Other researchers who have studied induction recognize the lack of distinction between the assumed capabilities of a veteran teacher and those of a novice, the lack of special support available to new teachers (Joyce et al., 1981) and the sink-or-swim approach imposed on most new teachers (Lortie, 1975). The stresses and problems of first-year teachers have also been documented by Ryan (1980, 1982) and McDonald and Elias (1982), who place this experience in a continuum between preservice and inservice. Doyle (1980) adds a dimension to this scenario by describing the complexities of classrooms crowded with "people, activities and interruptions" that leave the teacher particularly vulnerable and with little time to think about and anticipate classroom events (Evertson et al., 1984, p. 37). In short, new teachers arrive in classrooms ill-equipped to handle the regular duties of teaching and the concomitant "reality shock" of the first year of teaching.

Lack of assistance during induction. It is during the first year that teachers experience the most difficulty, yet no assistance is provided (Adams, 1982). Chapman (1983) stated that

"Early frustration may act to discourage teachers from pursuing their career, both as it leads to direct job dissatisfaction and as it shapes beginning teachers' professional and social patterns that affect retention in a more subtle way. One might expect that a positive first teaching experience would be positively related to retention and, further, would be substantially related to a person's ratings of adequacy of his or her teacher preparation program." (p. 45)

Yarger (1982) stated that the lack of induction programs for teachers could be attributed to institutions' unwillingness to assume responsibility, limited resources, political power struggles in teacher education, mere logistical concerns, and the public's belief in the competency testing concept. Implicitly, the responsibility is placed on teacher education: If new teachers were adequately prepared, induction would not be necessary. Such

a position is unjustified, but teacher education programs can do much to prepare prospective teachers for this phase of practice. Evertson et al. (1984) encourage teacher education programs to foster a process of teacher learning during the first two years. For instance, teacher training needs to avoid overemphasizing a core set of teaching skills as "fundamental dogma," since skills need to be adapted regularly to meet the unique needs of students in diverse contexts. Programs should encourage students to be more adaptive and flexible and to use student teaching as an opportunity to expand their range of skills rather than narrow it.

Unfortunately, this realization of the pressing need for new teachers to be flexible is not compatible with the public's increased demand for practicality and less theory. Nevertheless, programs can be conceived wherein new teachers are encouraged to share their mistakes and not "cover up" (Rosenholts, 1984), and to use the opportunities presented by merit and master teacher programs to consult master colleagues as helpful resources. This process has the dual purpose of making senior teachers more useful and easing junior staff members' burden of isolation.

The lack of adequate induction into the profession may also contribute to teacher attrition, a prime concern of policymakers and educators. More than 50% of teachers leave the profession after six years, and apparently a disproportionate number of academically talented teachers are leaving the profession (Schlechty and Vance, 1981).

In essence, it appears that the very elements that increase retention of professionals are lacking in education. Chapman and Hirschson (1982) confirmed that those who left teaching gave as reasons for leaving low salary, limited job autonomy and, in the case of elementary teachers, lack of opportunity to

contribute to important decisions. Those who left teaching were characterized as primarily investigators, who possessed a "spirit of inquiry" that teacher education was to nurture. In an attempt to determine "satisfaction" of teachers, Chapman and Lowther (1982) found that women were more satisfied than men. The ability to influence others and recognition by administrators were also contributing factors to job satisfaction. Wangberg, Metzger and Levitov (1982) reported that job dissatisfaction among female elementary school teachers was related to work conditions and perceptions of career options. It was not related to experience. The authors suggest that the combination of dissatisfaction and more career options available to women will eventually influence the quality of elementary education.

It appears that the creation of induction programs would have the threefold benefit of enhancing teacher development toward more sophisticated teaching practice, adding a support base for new teachers who report early job anxieties, and tempering the tendencies of qualified candidates to leave the profession prematurely because of on-the-job frustrations.

Curriculum Efforts for Induction

Studies of induction programs. Edwards ¹⁹⁸⁴ (1985) reported on an intensive study of two state-mandated induction programs through which teachers must pass before receiving certification and noted that the overarching goal of the practices surveyed was quality assurances of teachers. Her review included a summary of other states' approaches to practice; some states draw up specific induction plans and others allow local districts to devise the plan. The induction programs reviewed were typically carried out by local teams of building administrators, experienced teachers, and the teacher inductees. Almost all plans call for classroom observation and feedback. As with most

mandated policies, there are variations in implementation: some districts have intensive, long-term plans for induction and others seem merely to complete the paperwork of documenting progress.

Edwards' comparative study of two induction efforts sampled programs in two states, including 13 school sites and 16 first-year teachers. She observed the following: First, state policy does affect local practice; that is, in every instance, regardless of the district's disposition toward the policy, all new teachers were engaged in a programmatic induction process. Second, although teams were formed at all sites, some teams interacted at high levels of motivation and support and others simply met the perfunctory requirements of attending meetings and completing forms. Third, all new teachers in the study were ultimately recommended for certification; new teachers did not seem afraid that they would not receive a positive recommendation. Participants really viewed the process less as an assessment vehicle than as a means of assuring instructional improvement. According to Edwards (1984):

The view appears to be: The program is a gatekeeper for the profession, assessing performance to eliminate those who do not measure up; but in my case, the new teacher is being assisted and will, unquestionably, be successful in the program. (p. 11)

Fourth, participants had diverse reactions to the program; some thought it was useful, others found it redundant. Fifth, contextual conditions often militated against successful completion of the program as designed. Finding time for meetings and classroom relief made it difficult to meet all requirements. And sixth, some questions were raised regarding the validity and reliability of observation instruments employed.

Several concerns can be drawn from this study. Time is in short supply: New teachers and participating experienced teachers had difficulty finding time to complete all the assignments, observations, and workshops required. Some

felt they needed more and better training in classroom observation. Some veteran teachers felt accountable only for fulfilling a state requirement; others were genuinely committed to the success of the first-year teacher. Finally, all participants expressed a sense of vulnerability, the veterans because they couldn't complete all of their assignments and the more insecure novices because they often felt unable to question the judgments reported by their observers. Although it was generally concluded that state mandates affect the local school's delivery of induction programs, the "situational contingencies" (time, resources) have a critical effect on program impact.

Exemplary program models. In addition to these state-mandated induction programs, several other states (six at last count) have implemented statewide career-ladder programs. Although they affect the entire teaching staff, they are of particular interest in supporting the induction phase. Activities in three states will be reported briefly, with some effort to recognize the induction phase in each plan.

In 1980, system designers began developing the Charlotte-Mecklenburg Teacher Career Development Program (Schleaty et al., 1985). Full implementation took place during the 1984-85 year, with 150 teacher participants. The plan proceeds from three assumptions: First, teachers are managers, not production-line workers (Berliner 1983); second, teachers should not be granted tenure unless they can demonstrate classroom competence; and third, evaluation involves human judgment and human values. A career ladder of six levels evolved: provisional teacher, career nominee, career candidate, career level I, career level II, and career level III. Each level requires demonstrated competence. Of particular importance to induction is the opportunity for the provisional teacher to concentrate almost exclusively on classroom instruction

and participation in special programs designed for novices. As teachers move into career levels, they also help beginning teachers with induction program activities.

In addition to financial rewards and other incentives, the most critical aspect of the program is its emphasis on evaluation. Participants are informed in advance of the criteria for observation, and each observation is followed by feedback sessions. Teachers create portfolios of evidence or an action-growth plan, and a team of administrators and teachers assesses the impact of this improvement plan. Program designers reported that the plan was developed cooperatively, carried a broad base of support in the district and represented an opportunity for success in a district where the climate was positive.

The Tennessee Career Ladder Program (French, 1985) is only one of several reforms encompassed in the Tennessee Comprehensive Education Reform Act of 1984 (CERA). The career-ladder aspect of the law falls under the "Better Schools Program," which has far-ranging implications for curriculum reform, computer skills, discipline issues, job skill training, and centers of excellence at universities, as well as for the master teacher program. The career-ladder program for teachers contains five steps. As of July 1, 1984, first-year teachers are licensed for one year as probationary teachers. During this time, they are evaluated by local school district staff, using criteria and guidelines established by the state's Certification Commission. The evaluations are competency-based and include classroom observations, tests of professional knowledge, interviews, student feedback, and a professional portfolio, all assessed against the initial set of competencies in the evaluation design.

Teachers who perform adequately on this review are promoted to apprentice

teachers. After three years they may, assuming satisfactory performance on the competency measures, move to successive career ladders, levels I, II, and III. System incentives include financial rewards, increased responsibility, and increased status. Although the report reviewed did not explicate underlying assumptions for the program, it does draw a strong relationship between this program and Tennessee's commitment to general professional development; that is, evaluatees must continually be provided feedback in areas of strength and need and be given recommendations for improvement of instruction. This plan is also in its first year of operation.

The Temple City, California, Career Ladder Program (Freiberg, 1985) is now defunct: nonetheless, it is instructive. It was a product of the reform rhetoric of the 1960s and '70s known as differentiated staffing, whose basic assumptions were: 1) teachers should have the opportunity to move up a career ladder, 2) good teachers should be kept in the classroom, and 3) students benefit from individualized instruction. The Temple City program formulated in the late 1960s had four career stages: associate teacher, staff teacher, senior teacher, and master teacher. Inductees were associate teachers at the bottom of the career ladder. They were in the classroom full-time, and were observed against a set of prerequisite skills; after four years and successful demonstration of mastery, they could move up the ladder. Instructional teams were formed around these four professional levels, and paraprofessionals were employed to free teachers from classroom instruction so they could participate in the program.

Aside from this description, this model is cited as much for its failure as for its success. Although some points may be subject to debate, Freiberg offers an array of reasons why the system and others like it failed, which may

be important to emerging efforts of the '80s. Teachers were not prepared for the change in work environment of teams, assessment, and time required; parents were concerned that the best teachers would be removed from direct contact with their children; roles were difficult to distinguish, especially at salary time; the ladder created a ballooning and ultimately unaffordable financial drain; the program offered incentives for some to participate but because lines were full, many were discouraged from participating; district responses were so unusual as to be difficult to apply in other settings; programs suffered from inadequate planning; the supervisory staff was often placed in direct competition with the supervisory responsibilities of master teachers; and finally, there was no empirical evidence that these plans would make better teachers stay in the classroom longer.

California experimented with the career-ladder concept in recent years through an NIE grant to develop the California Consortium on the Beginning Years of Teaching. The California Commission for Teacher Preparation and Licensing invited a number of colleges and school districts to engage in a consortium activity to enhance the induction year. The program's goals were to offer support and cooperation to the districts and SDEs interested in developing collaborative induction programs. Induction plans were also formulated on the tenets of cooperation and support, inservice that would be shared by new and veteran teachers concurrently, respect for all parties in the program, reduced assignments for new teachers, and the coordination of preservice with inservice education. The program called for a two-year internship at several different school sites and a three-year school residency at the site of employment.

Again, the reasons for success and failure will inform our current

efforts. First, school districts had to commit to new teacher slots in advance. Such planning was difficult in most small districts; only large districts like Los Angeles could make those kinds of predictions. The cost of teacher released time was also a burden for most districts. Campus personnel were concerned about the shift of control for parts of the teacher education program. Universities' burdensome academic rules and procedures inhibited experimentation. And finally, there were professional barriers: Teachers feared losing their jobs and did not trust the teacher educators.

Recommendations for more effective induction programs offered by Freiberg (1985) included more horizontally created programs, so that a greater number of teachers could experience leadership roles; a focus on school improvement goals that incorporated the beginning teacher program; a more competitive salary structure; more varied types of incentives, like sabbaticals; and more self-evaluation opportunities and research grants for instructional improvement.

Conclusions

The critical nature of the teachers' induction period is recognized, yet few systematic approaches are employed. The primary method is still the sink-or-swim approach (Lortie, 1975). This approach is too often traumatic; indeed, it may have long-term implications for teacher development and career decisions. We concluded that:

1. There is little information to support one particular approach to induction, though there is a need to examine this critical phase of teaching.
2. The impact of the sink or swim approach is unclear, although there are implications that many teachers become discouraged and alienated by lack of support and may leave the profession early.

3. Whether a school district or a university is responsible for induction is almost a moot issue and certainly presents an opportunity for collaboration.

4. Limited resources to support their own work, coupled with the lack of recognition for assisting in induction, has deterred classroom teachers from participating in useful induction activities.

Recommendations

The induction phase of professional development continues to be an understudied phenomenon in the socialization of teachers. Therefore, our recommendations will require incremental steps in the development of promising approaches to induction activities.

1. A major synthesis of the conceptual frameworks significant to early teacher development (self-development, cognitive development, and teacher socialization) must be provided as grounding for proposed induction schemes. Although these areas of investigation are promising with regard to how teachers develop, studies in this area remain embryonic and must be culled for their implications for induction activities.

2. Drawing upon results from such a synthesis, promising models for practices during induction could be designed and tested at regional sites. This would help ascertain the impact of certain conceptual approaches in early teacher development.

3. Several induction schemes the Laboratory could support through description, evaluation and dissemination are already being employed in the region. They include the University of Toledo/AFT Plan, the Ohio State University Franklin County Schools Pilot Induction Program, and the Wisconsin Improvement Program.

STAFF DEVELOPMENT

The Context for Staff Development

Contextual problems frequently militate against effective inservice education. The operation of staff development efforts within school districts, for example, often falls to officers low in the administrative hierarchy, who operate in isolation from key individuals who make critical curricular decisions for the district (Ianier, 1984).

Likewise, there is often little communication or coordination about the nature of needs or resources available relative to staff development (Cyphert, 1981; Ianier, 1984). Too often, inservice programs are not part of a coherent policy or institutional priority, nor is there a relationship to existing programs for teacher evaluation (Ianier, 1984). This latter concern is further complicated when staff developers have conflicting responsibilities for instructional improvement and personnel evaluation. It is difficult for a teacher to share needs when needs may be perceived as deficiencies. Here it appears that the literature on supervision could inform inservice, while teacher evaluation systems could help supervision.

Cyphert (1981) has observed that inservice education is an area where politics often plays a larger role than it should. Frequently the success of a program is not determined by its utility to the clients. Rather, the original source of the program — often staff development officers or central administrators — determines the validity of the effort. He further notes that the preservice component of teacher education does little to prepare prospective teachers to assume an effective inservice role; that is, teachers do not learn how to identify their needs or how to ask for more appropriate assis-

tance. The context and purpose of staff development, as indicated earlier, are rarely related to the preservice context and purpose.

Context can, of course, be facilitative as well. Leadership in staff development is effective to the extent that persons responsible know the system, its rewards, its organizational history, and whether the system is open or closed, receptive to or resentful of change efforts (Gross et al., 1971).

The careful examination of observed and perceived needs is effective only if staff development leaders are able to judge whether the needs identified can be met by a staff development program and/or whether these needs require antecedent. Good leaders are those who are capable of "needs sensing," since not all levels of participants involved in staff development usually agree on what is needed (Byrd, 1981). There are change models for assessing need and mode (Hall, 1981) and observational systems, drawn from a research base, that assist in determining needs (Stallings, 1982).

Common processes associated with staff development include those decisions and actions related to planning, implementation, and evaluation of content and delivery. The four components of Bentzen's (1974) taxonomy are dialogue, where all parties talked about professional issues; decisionmaking, where decisions were made relating to the issues; action, where programs were designed to carry out decisions; and evaluation, both formal and informal, where actions were assessed to see if they met the originally identified issues. Griffin adds an additional variable, referred to as a peer group strategy, where participants found that most of the solutions to their problems resided within themselves and their environment (Griffin, 1982, p. 20).

The I/D/E/A Study of School Improvement, the Rand Change Agent Study, and

the Texas Center for Research on Teacher Education Model, called the Concerns Based Adoption Model (CBAM), provide insights into change as it is associated with staff development. The central thesis of the I/D/E/A model is that adults in schools must learn to help themselves; teaching tends to be a task of isolation and teachers must learn to think together in dealing effectively with their problems.

The four-year, two-phased Rand study surveyed almost 300 change-agent projects to document the mutual adaptation process of school professionals and change efforts. The study found that schools implemented innovations in different ways, taking into account organizational forces, participant motivation, and the political pressures unique to individual settings. Hall's CBAM model provides a structure for staff development planning that focuses on the process of change as a personal experience. This model, developed at the Texas R & D Center, looks at stages of change over time and levels of concern from a personal perspective. It has been employed in numerous studies to examine the interaction between change efforts and individual attitudes and behavior.

In the Rand study, project success was directly related to the teachers' willingness to work hard and achieve the goals of the project. The teachers' commitment, in turn, was directly related to the scope of the change. The greater the change in terms of complexity and impact, the more motivated the teachers were. One might conclude that teachers in these instances had more power to influence their profession (Kanter, 1981), and thus were willing to do extra work. The district managers' motivation was a direct signal to teachers. If the district managers were not committed to the change, teachers were less committed.

The degree of commitment of both teachers and administrators was directly influenced by the form in which the project planning took place. Collaborative planning increased both long- and short-term success and appeared to contribute to broad-based commitment. Another intriguing finding was the negative impact of extrinsic rewards upon project success. Teachers paid for training were less likely than others to report achievement of goals. Such intrinsic rewards as the opportunity to engage in collaborative professional activities and the power to influence were reported as more important than extrinsic factors. These findings concur with other research about the primary motivations of teachers.

Two other dimensions identified in the Rand study have direct implication for staff development. In staff training it was found that specific skill training had only a short-term effect. Teachers did not assimilate or personalize the skills. But staff support activities in the forms of resource personnel, project meetings, and participation in project decisions when perceived as useful "had strong positive and direct effects on the longer-term project outcomes." (Barnes and McLaughlin, 1975, p. 77). It was not the quantity of time involved in the support activities but the quality that ensured transfer and maintenance of skills. This will be discussed in more detail in the section on coaching.

Also of interest is the demonstrated need for teachers to have not only clear goals, but also conceptual clarity. This recalls our discussion of conceptual clarity in preservice programs. Teachers must develop a conceptual road map to assimilate the change. Finally, while the commitment of the building principal and the skills of the project staff were related to change, the climate of the school was also important. McLaughlin and Marsh (1978)

stressed this finding in the following:

"...the study found that the school climate was as important as the principal in the continuation of project methods and materials once the federal funding was terminated....the quality of the school's organisational climate — whether teachers felt the school was a good place to work in, had esprit de corps, was efficient, and was managed effectively by the principal — influenced the quality of project relationship....[Schools with] a supportive organisational environment with a strategy of teacher participation in project adaptation were most able to implement effectively and continue their innovations. (p. 83)

McLaughlin and Marsh go on to point out that many teachers "peak out" after five to seven years of teaching. Teachers who are described as idealistic and dedicated to helping others appear at this time to lose their enthusiasm and capacity to change. "This 'calcifying' effect seemed less an intrinsic characteristic of teachers or of the role of teaching than testimony to the way schools are managed" (p. 84).

Compared to other occupational groups, teachers are highly social and value opportunities to interact with co-workers (Super, 1970; Holland, 1973). But given the cellular nature of the schools reinforced by a sense of vulnerability, teachers tend to retreat to their cells. The primary source of stimulation and identity comes from their students. Boyer (1983) stated, "The time has come to recognize that continuing education must be an essential part of the professional life of every teacher.... Excellence in education will be achieved only as we invest in the education of the teachers in the classroom" (p. 179). Also, the teacher cannot be solely responsible for the achievement of excellence; such a position will only increase teachers' sense of vulnerability and frustration.

There are a limited number of reviews of the research (and nonresearch literature) designed to identify elements of effective staff development including contextual factors. Lawrence and Harrison (1980) reviewed 59 studies

of inservice programming and concluded:

The most successful programs treated their participants as professionals, as conscientious people who want to continue to expand their skills and their range of professional competence. The more successful programs seemed not only to give careful attention to planning the inservice activities, but were planned to fit the design and methods to the people - to their purposes and to the context in which they worked.

Lawrence and Harrison translated common findings into a set of variables clustered as follows: 1) Teachers were directly involved in the design and conduct of programs, and programs were funded to assure this level of participation; 2) the motivations of participants made them receptive and active in the programs; 3) conditions of service allowed time to work in the program and to test new skills in the classroom, since programs were offered at local school sites; and 4) selected leaders were effective in using alternative instructional activities, were linked to other local agencies to ease in resource acquisition, and were skilled at offering teacher feedback and reporting outcomes.

Yarger et al. (1980) reported similar contextual conditions and characteristics. They concluded that teachers need time to engage in the program, with a supportive environment at their school and at the district level. Successful projects responded to individual needs of teachers. Teachers rated most positively skill-oriented sessions concerned with "individualizing" instruction, classroom management, and learner assessment. They also indicated a need for programs that addressed personal development.

Derived from Griffin's analysis (1982), variables that he believes to be critical to effective staff development are encompassed in the following eight statements. For Griffin, these conditions approximate an "ideal" staff development program as derived from the research on inservice that he reviewed:

1. A staff development program will be designed as a consequence of systematic problem identification by those persons most directly related to the problem.
2. A staff development program will be interactive.
3. A staff development program will, in some degree, recreate a school organisation from pyramidal to flat.
4. A staff development program will depend less upon external support systems and more upon internal ones for substantive and procedural guidance.
5. A staff development program will be formulated and monitored with the perceptions of the participants as central foci for decision making.
6. A staff development program will be formulated, in part, in terms of a careful analysis of the organisation and the people for whom it is intended.
7. A staff development program will be flexible and responsive.
8. A staff development program will be, within reasonable limits, situation-specific. (1982, p. 23)

Little (1984) conducted a focused ethnography of six school districts in a large urban district, using interviews, observational data, and detailed descriptions of the context, design, and consequences of the six programs studied. She concluded that staff development is most influential if: 1) it ensures collaboration to produce shared understanding and investment in the effort, is perceived as thoughtful and fair, and is the result of rigorous testing of the ideas selected for discussion; 2) it involves collective participation of the teachers and staff in training and implementation of program designs; 3) it focuses on problems the participants view as crucial; 4) it occurs often enough and for long enough to ensure progressive gains in instructional improvement; and 5) it is congruent with the norms of collegiality and experimentation.

Along with these salient program features, other contextual factors contributed to success, including adequate staff and budget to support the

program. The principal served as a sensitive and supportive leader, teachers experienced a sense of mutuality, reflective action was reinforced, and the staff development activity fit the formal structure of power and policy.

These are tentative propositions, and Griffin (1982) goes on to observe that inservice education is still very poorly understood from a research perspective. Because of its complexity, it is difficult to establish methodologies that adequately cover all variables of staff development programs, including the people, the setting, the curriculum, the materials, support services, and program outcomes. Thus, he concluded that there are "few conceptually elegant and methodologically rigorous research studies."

In this vein, Yarger and Galuzzo (1983) examined prior reviews of the research to illustrate the difficulties and complexities associated with the study of inservice practice, including the Lawrence et al. (1974) review, which attempted to sort out effective from ineffective practice, the Nicholson and Joyce (1976) assessment of major data needs, and the Joyce and Showers (1977) review of over 200 studies focusing on the effectiveness of various kinds of training methods. They pointed out that each of these reviews encountered difficulties because of the diversity of activities studied, the lack of common language to identify elements of inservice and the different units of analysis employed. Further, criteria were not made explicit for how the research was reviewed and selected works compared.

In summary, Yarger and Galuzzo support a broad definition for inservice education and provide a matrix for categorizing types of research against a set of four basic questions that research could address and that could explicate the results of these studies in a comparative fashion. The definition they adopted is from Haas (1957):

Broadly conceived, inservice education includes all activities engaged in by the professional personnel during their service and designed to contribute to improvement on the job. (p. 13)

With this definition, it is possible to further delimit inservice or staff development research. "Subjects" of study would be defined as actively employed professional educators participating in instructional improvement efforts. This type of matrix could be useful to the Laboratory in future reviews of the research to analyze both what has been done and what still needs to be done. Their research types include program descriptions, case studies, surveys, correlational studies, and experiments. These interact with the following research questions in the matrix: 1) What exists? 2) What is appropriate? 3) What is feasible? and 4) What is effective? At this time especially, the Laboratory could help provide as a first necessary step good descriptors, including conceptually framed case studies of what exists, selected on the basis of effectiveness.

This concludes our brief overview of the various individual and contextual factors that appear to influence staff development and some of the databases for identifying these. We turn now more specifically to a discussion of programs and projects. After a brief overview of what appear to be typical or normative staff development practice, the next section addresses in some depth four basic concerns attached to staff development: 1) purposes, 2) formats, 3) content, and 4) what appear to be characteristics of effective programs and projects.

Normative Practice

What does normative staff development practice look like today? Martens (1982) identified two common forms of staff development for teachers:

Form I is supported through school district provision of time for teachers to engage in inservice activities. Endorsed by the State

Education Department, the primary example in New York State is the "Superintendent's Day" on which districts close their schools and require that all teachers engage in district-organized staff development. A typical program would bring all district teachers together to hear speeches related to district objectives. Less commonly, individual teachers are relieved by substitutes from teaching duties to pursue independently arranged activities, for example, visitations to other teachers' classrooms.

Form II is supported through districts financially subsidizing professional development activities which carry college graduate credit. In some instances, districts provide district subsidy through assuming the registration costs for teachers enrolling in courses. More typically, districts provide indirect subsidy in that teacher advancement on district salary scales is almost always related to the accumulation of college graduate credits. Teachers engage in this form of inservice on their own time but participation is mandatory to the extent that it affects a teacher's certification and position on district salary scales. (p.1)

In their survey of staff development practices, Yarger, Hovey, and Joyce (1977) identified the after-school workshop as the most common staff development format. College courses were also typical, with activities varied across the country and related to available college resources, especially in rural areas. For example, only 10% of professors surveyed reported that they did not teach at least one course annually targeted primarily at employed teachers. In certain areas of the country, up to one-third of the responding professors indicated they taught three or four such courses annually.

A major trend today is the emphasis on empirically supported and instructionally focused inservice programs or packages, such as Hunter's (1976) Instructional Theory into Practice program or Stalling's (1980) Effective Use of Time program. Thus, staff development is taking on a new look. Gall, Haisely, Baker and Perez (1984) reviewed the research on these recent staff development activities designed to improve instruction, usually in the area of reading or mathematics. They indicated research to support the following guidelines, among others, for staff development with this instructional

Improvement focus:

Inservice programs should focus on improving student achievement in basic skills.

Inservice programs should have operationally stated objectives for teacher behavior.

If the skills to be learned are complex, they should be phased into the teacher's repertoire gradually.

Meetings should be held to deal with teachers' concerns about the inservice program and that build consensus agreement to participate in it.

Teachers should study manuals describing direct instruction methods, discuss the methods in group meetings with a trainer, and receive observation and feedback on their behavior.

Inservice programs should use the teacher's classroom as a training site at least part of the time to provide observation and feedback.

Inservice programs should provide activities that allow teachers to work with and learn from each other.

The principal should participate in and support the teachers' inservice activities.²

In their study of individual teachers in Oregon, Gall et al. (1984) and his associates found that the amount of staff development teachers engaged in varies widely from 12 to 250 hours annually. Their study also suggested that while many staff development projects are designed to be more instructionally focused and more tightly coupled to the actual school curriculum than previous staff development endeavors, many activities nonetheless remain loosely coupled in terms of actual impact on practice. In attempting to ascertain the actual purpose of many staff development efforts, they write:

If this interpretation is correct, it means that each or all of current inservice education is not designed to improve student achievement or to improve the total school organization....What then is the purpose of inservice education? We can only speculate on the answer to this

² These characteristics were selected from Table 1 in Gall, Haisely, Baker, and Perez, 1984.

question here. Our hunch is that inservice education, however it is originally conceived, becomes bent to the prevailing patterns of school system functioning. Inservice education appears largely designed to be unintrusive and undemanding of teachers. It reinforces prevailing curriculum and instruction, and is not intended to alter them in a fundamental way. The focus of inservice instruction on the instructional process rather than instructional outcomes is a major indicator that it is not intended to challenge the prevailing system. Another indicator of lack of challenge is the fact that teachers feel adequately prepared in the majority of inservice activities even before they begin participation. (p. 8)

Thus, it appears from our review of selected literature that while advances are being made in a number of instances, many problems remain. To help NCSEL determine specific priorities for staff development, the following questions are addressed here:

1. What purposes can and should be served through staff development efforts?
2. What formats exist for providing quality forms of staff development, beyond the after-school workshop or the college course with its lecture-discussion format?
3. What empirically supported content can be employed in staff development to improve instructional practice?
4. What, in summary, appear to be the characteristics of a comprehensive, ongoing program of staff development; similarly, what criteria might be employed in selecting or designing specific staff development projects?

Purposes of Staff Development

As Gall and his associates indicate, there are increasing attempts to provide specific demonstrations and build in feedback and follow-through in the classroom. The content and skills which are addressed in these staff development efforts often have empirical support. These are all laudable trends;

nonetheless, there is concern that these efforts are proceeding with too narrow a focus.

First, the relatively content-specific nature of many of the empirical studies used to support particular instructional practices is ignored by some enthusiasts. Second, it appears while some of this instructionally oriented staff development is relevant, brings elements together in new ways, and employs new terminology, its content often is not, in fact, that new. As Gall et al. (1984) reported, this focus on core or basic skills, while perceived as relevant by teachers, was also perceived in several instances as addressing material in which they were already adequately skilled. Third, we maintain that a preoccupation with the largely technical aspects of teaching will contribute further to a concept of teaching as less than the complex, interpersonal activity and select vocation that it is. This was a major concern in the section on preservice programs, and we reemphasize it here.

There is no argument that improved instruction is the preeminent purpose of staff development, nor that there is great need for more complex thinking skills in the classroom. But staff development efforts toward these ends could be more diverse and complex than current practice suggests. Nor should we forget that teaching involves a multiplicity of legitimate needs and interests, only some of which are met in the basic skills orientation or the emphasis on pedagogical development generally. Thus, we have identified five related major goals or purposes that might be addressed in a well-conceived program of staff development. Accommodating these purposes can contribute, perhaps indirectly but nonetheless in powerful ways, to the basic goal of improved instruction in the classroom.

Formats for Staff Development

Teacher personal development. Staff development is obviously about change, as we indicated earlier. Efforts to understand change, especially personal change, should assist teachers generally in changing patterns of behavior. There is considerable literature about how adults change over time, including general stage theories of development, genotypic age-linked conceptions of change, and studies that speak to pervasive adult concerns (Willie and Howey, 1980). Teaching is largely an interpersonal activity. Increasing the teacher's understanding of her or his own behavior and how she or he is changing over time can contribute to the quality of that teacher's interpersonal behavior, including those myriad daily encounters with students.

A few examples of a periodic focus on how one changes over time might be beneficial. First, a unique aspect of teacher staff development is that the teacher is engaged largely in an instrumental fashion; that is, his or her learning is primarily concerned with promoting learning in others. Learning with a personal focus is simply not common in most staff development activities. Over time, this instrumental posture contributes to an impersonalized conception of teaching and learning. A periodic focus on a better understanding of self through the study of similar others would, we believe, contribute to a fuller understanding of teaching's personal dimension and to the mental health of teachers generally. Teaching is a highly demanding, often stressful endeavor, and this periodic emphasis on the teacher as a person should not be taken lightly.

Second, a unique aspect of teaching is the growing physiological contrast that occurs over time between a teacher and her or his students. There is an extensive body of literature on physiological change over time, and there are

indications that teaching may exacerbate problems typically associated with aging. A better understanding of the universality of these changes and how to deal with them would seem especially helpful to many teachers. Again a growing database exists that can help teachers understand and adapt to these changes.

Teacher cognitive development. A number of cognitive-developmental constructs appear to have specific applicability to understanding teacher behavior. Stage theorists such as Piaget (1972), Kohlberg (1976), Loewinger (1976), and Hunt (1975) maintain that human development and personality result from changes in underlying cognitive and emotional structures. Each stage in these hierarchical structures provides a qualitatively different frame of reference through which a person interprets and acts upon the world. These sequences of development invariably progress from simple to more complex, differentiated modes of thinking and behaving.

Numerous studies have indicated that adults, including teachers, differ in their developmental status relative to these various developmental constructs. Some studies, for example, suggest that many adults may have not completed the transition to formal operational thought characterized by propositional thinking (Tomlinson-Keasy, 1972; Neizerck, 1975). A major emphasis in the Laboratory's professional development agenda is on promoting higher-order thinking as a core teaching skill. Obviously, a teacher's own cognitive development is related to his or her ability to teach higher-order skills. Some studies also show that differences in teachers' cognitive and interpersonal development are related to differences both in how teachers learn in staff development activities (Bents, 1978) and how they interact with students in their classrooms (McEachlan and Hunt, 1973). More importantly, staff development projects designed to promote cognitive development in

teachers are appearing; namely, Glasberg (1977), Sprinthall and Thies-Sprinthall (1983), and Oja (1984), although a great deal more work is needed in this embryonic field of study.

Teacher theoretical development. We believe that teachers should be guided by explicit theories of teaching and learning. To characterize teachers generally as atheoretical appears accurate in many instances. However, whether they can be characterized as anti-theoretical is not as clear. What theory is being rejected? Many staff development activities, like many preservice activities, appear to be atheoretical, and the consequences from our perspective are considerable. Theories of teaching and learning contribute to rational behavior in the classroom and to professional status as well. Yet theory development or theory testing as a goal of staff development seems to be exceedingly rare. In one of the few exceptions in the staff development literature, Fenstermacher and Berliner (1983) suggest that any proposed program of staff development should be justified by its contributions to the attainment of goals set forth in a selected educational theory.

We argue that theories supporting the core functions of teachers do exist; but to be meaningful (and hence used), they should be grounded in practice, and teachers should have multiple opportunities to both act and reflect upon these theories. There have also been a few staff development efforts rooted in perceptual psychology based on this action-reflection, grounded-theory approach (Holly, 1977, 1979; Bussis, Chittenden, and Amaral, 1976). An emphasis solely on the "how" of pedagogy is misplaced; the "when", "why" and "what if" need major attention as well.

Teacher professional development. A professional is characterized by the ability to make informed judgments and perform important tasks in complex

environments. These judgments and performance are grounded in an identifiable, empirically supported knowledge base to which the members of the profession contribute. While not all members of a profession contribute directly to that knowledge base, there is generally no major difference in status between the producers and the consumers of research and development within a given profession; such is the situation in law, medicine, and engineering.

This is not assuredly the situation in the teaching "profession." Those within the teaching ranks only rarely engage in research and development that contributes to their knowledge base. Additionally, there are major differences between the status and working conditions of teachers and of those who do engage in knowledge production. Thus, the involvement of selected teachers in knowledge production activities is essential to advancing both the status of teachers the specialized knowledge base that guides their work. This function should increasingly become a central purpose in the continuing professional development of teachers. The Laboratory should consider how teachers can be more fully involved in research and development and can build upon what has been learned in previous collaborative R & D projects (Ward and Tikunoff, 1982). We encourage the Lab especially to support collaborative forms of research and development.

Other labs and centers have supported such research which is consistent with the Lab's mission to develop better links among important stakeholders in education in the region the Lab serves. We attach particular importance to this concept. The term collaboration is commonly employed in the literature of both pre- and inservice education. It typically refers to joint activities between schools and colleges.

In preservice education, collaboration usually constitutes arrangements

between schools and colleges whereby cooperating teachers open their classrooms for observation, participation, tutoring, and student teaching by prospective teacher candidates. A common form of collaboration at the inservice level combines teacher needs with the resource and instructional abilities of college instructors in the form of university courses, or district-level seminars and workshops. Schools and colleges also cooperate, but less frequently collaborate, in the conduct of school-site research. In the most typical pattern of school research, a professor has access to a school or classroom to investigate the nature of a particular problem and the school setting is adapted to meet the specifications of the research project — often with little mutuality of interest.

In contrast, collaborative action research first referred to in the 1940s and '50s is a process which emphasized and encouraged the cooperative study of problems by practitioners and researchers. Both Levin (1948) and Lippitt (1949) contributed to defining this approach. Today collaborative action research is commonly defined as an interactive research and development experience. It presupposes a professional team of investigators, usually composed of a researcher, a developer and several teachers who make collaborative decisions regarding research questions, data collection and analysis. Its more recent advocates have been in the area of curriculum studies (Ward, 1983) and the study of teaching and schooling (Griffin, Lieberman and Jacullo-Noto, 1982); Tikunoff, Ward and Griffin, 1979; and Ward and Tikunoff, 1982).

According to Carr and Kemmis (1983), certain teachers have historically made their own way toward systematic study of their teaching. These two authors have produced a book countering the conformist view of teaching that tends to divorce practice from theory. They present three notions of

theory that, as explicated, may inform collaborative action research as a potential process of inservice education. They review empirical and phenomenological approaches, as well as what they call critical theory orientation.

Critical theory presents theory and practice as "dialectically related, with theory being developed and tested by application in and reflection on practice and practice as a risky enterprise which can never be completely justified by theoretical principles" (p. 47). In empiricism and phenomenology, the researcher stands outside the research situation, adopting a disinterested stance, trying to maintain neutrality, and not seeking educational change. Critical theorists, by contrast, attempt to expose and eliminate inadequacies in beliefs and values implicit in educational practice. They assume that practice determines the value of theory (not the reverse) and that only the practitioner can finally solve certain problems.

There are numerous instances of collaborative action research as an example of staff development. Oberg (1985) designed a teacher plan for developing personal knowledge of education practice "through self-discovery of the understanding, beliefs, and assumptions that are the source of explanation and justification for a professional educator's practical action." Sanders (1985) suggests that for collaborative action research to fulfill its potential, "it must go beyond describing and interpreting classroom practices and generate means for analyzing and improving practice."

Jacullo-Noto (1985) formed teams of teachers, researchers, and developers in self-contained settings where teachers also serve as the researcher-developers, with university collaboration at the technical level. In this instance, she studied the newly hired teachers in the induction phase of practice. Other forms of collaborative action research designed to stimulate

teacher growth include providing for teacher reflection through the development of "narratives of experience" (Connolly and Clandinin, 1985), teachers focusing on problems to practice through interactive reflection (Buckmarr, 1985), and teacher disclosure of significant belief structures which become the foundations for critical organizational processes (Braunstein and Schwartz, 1985).

In summary, the basic proposition put forth here is that in order for teachers to achieve more complete professional status, a more complete knowledge base is needed and teachers themselves must contribute more actively to that knowledge base. Initial research and development activities involving teachers have demonstrated some promise, but there is still much to learn here.

Teacher career development. Two fundamental ways to enhance the careers of many teachers have considerable potential for improving instruction for youngsters as well. The first has to do with the creating more differentiated, realistic, and complementary roles for elementary teachers. We addressed this concern in the preservice phase and thus will not dwell on it here. We will, however, shortly discuss the potential of teaming, a concept that hinges upon more differentiated and complementary teaching roles than are evidenced at present.

The second approach is to develop more viable leadership roles for teachers, leadership roles that still allow teachers to maintain some instructional responsibilities. Across the nation and the region at this time there is a growing examination of various career lattices and leadership roles for teachers. Certainly placing senior teachers in leadership roles for staff development will become common. These teachers will require specialized training based upon what we have learned from three general lines of inquiry:

- 1) what is known about how adults (teachers) learn and develop,
- 2) how organizations (schools and classrooms) affect how teachers learn and develop, and
- 3) what is known about the organization, management, and delivery of staff development.

While the knowledge base about staff development in many respects is fragmented and still emerging, findings do exist to guide the development of programs for preparing more and better teacher leaders in staff development.

Underutilized forms of staff development. One of the major problems associated with many staff development activities is the distance — physically, conceptually and psychologically — between those activities and what occurs in the classroom on a daily basis. We advocate more emphasis on activities that can be embedded in the classroom and school context; here we review literature that documents how this might be done. The emphasis on school improvement efforts in recent years, which has been undergirded by a school effectiveness research, has been a move in that direction. There are other forms of staff development, several job-embedded in nature, that have not received as much recent attention. They include several variations of clinical supervision; self-observation and analysis; student observation of teaching and learning, and activities embedded in teaming or cooperative teaching approaches; coaching; variations of child study; and advisory or active staffing approaches commonly associated with teacher centers.

Hite and Hovey (1977) have defined job-embedded staff development as:

those planned activities which can be reasonably incorporated within one's normal instructional load to further professional development. Included in this form of inservice are at least three basic types of activities: (a) those which involve systematic observation of or feedback about elements of one's ongoing activities in school and school-related activity, (b) focused experimentation with curriculum or instructional behavior, and (c) efforts at gaining more understanding of the student and/or the home and community environment in which that student resides. (p. 48)

Variations in clinical supervision, feedback and observation. Opportunities for more comprehensive, accurate information about classroom activity are considerable. Our knowledge base of who can best provide what type of feedback, when, and in what form continues to expand. There are numerous variations on what is commonly referred to as clinical supervision. These general procedures can be utilized in a collegial, nonevaluative form as well as the more traditional supervisory approaches. Clinical supervision involves a collaborative phase, in which teacher and supervisor clarify what shall be taught, how, and with what objectives in mind; an observation phase, in which data are collected; and an analysis and discussion phase, where the focus is upon the observed teaching sequence. Goldhammer's (1969) five-sequence cycle of clinical supervision, as cited by Smyth, (1980) has gained wide acceptance:

- (a) pre-observation conference;
- (b) observation of classroom teaching;
- (c) analysis of collected data and development of a conference strategy;
- (d) actual conference between supervisor and teacher; and
- (e) post-conference analysis of the supervisor's behavior.

(1980, pp. 20,21)

Numerous researchers such as Copeland (1981), have developed formats for colleague training, using teachers as a primary resource in these clinical variations. Copeland's model incorporates interpersonal training with skills in systematic observation, data collection, and feedback.

A number of techniques for behavioral self-observation have also been refined. Hendricks, Thorenson and Hubbard (1974) were pioneers in developing

materials that allow teachers to understand and systematically alter their own behavior in unobtrusive ways while working with students in the classroom. Their particular goal was to help teachers alleviate tension and discomfort in anxiety-producing situations that tended to recur in the classroom.

Modern technology can also be helpful in many ways. For example, the capability has existed for years in systems such as the computer-assisted teacher training system (CATTIS) to provide immediate feedback to teachers on a number of desired dimensions of instructional behavior (Sennel, 1972). Teachers can examine immediately, for example, the pattern of verbal or nonverbal behavior in the classroom. The feedback in Sennel's scheme was channeled through either closed-circuit televised images of a cathode-ray tube display (CRT) or an audiotape recorder triggered by a computer.

Students themselves are also a potentially productive source of focused feedback, but they are rarely used in this regard. With simplified observational tools, students from the intermediate grades on up can examine aspects of teaching/learning behavior. The teacher and students select different elements of classroom activity that they would like to study more closely. For example, group process, various dimensions of classroom communication, decision-making styles, time-on-task, and forms of interruption are elements of classroom activity that could be recorded and examined periodically by the teacher and students together. This approach is based on the premise that when students are asked to systematically examine their roles and responsibilities in learning, they will see more clearly their responsibilities for various forms of behavior in and out of the classroom. The continual accurate feedback students could provide in the natural scheme of things has simply not been seriously explored as a form of staff development.

Teaming as a form of staff development. McDermott and Howey (1981) viewed team teaching as having multiple possibilities for professional growth activities embedded in ongoing activities within the school. They identified the following growth activities as possible in collaborative teaching arrangements:

1. Systematic description of and feedback about specific facets of a teacher's instructional behavior;
2. Joint "case studies" of specific students, where multiple perspectives of what might contribute to a problem situation are generated;
3. Demonstration of specific teaching techniques;
4. Collective review and revision of existing curriculum materials;
5. Joint development of instructional tools and aids;
6. Systematic review of planning and assessment procedures;
7. Increased flexibility through different forms of student grouping to free different teachers on the team for self-directed activities during the instructional day;
8. Increased opportunities to experiment with different roles and assume modified responsibilities (e.g., materials developer, community liaison, diagnostician of student needs, small-group facilitator, documentor/evaluator of classroom interaction, provider of technological support);
9. Increased opportunities (because of the numbers of teachers working closely together) to examine facets of organizational functioning (e.g., time, space, communications, work norms);
10. Opportunities to assume a number of leadership roles from time to time, including staff developer;
11. Periodic dialogue on and clarification of assumptions about the nature of teaching and learning;
12. Shared reactions among team members to common readings of critical interest;
13. Opportunities to plan and work together in experimental projects and action-research;
14. Occasional opportunity for the principal to assume a team member's responsibility so that the team member can assume a short-term

internship in a basically different context;

15. Planned and periodic opportunities for joint reflection about present practice and future potential.
(Howey, Bentz, and Corrigan, 1981, pp. 176-177)

Perhaps teaming as much as any organizational dimension which can be varied illustrates the potential for embedding teacher growth activities in the daily routine of the school.

Coaching as a form of staff development. The ongoing work of Joyce and Showers (1977, 1981, 1982, 1984) has vividly underscored the importance of activities more directly embedded in the school context. The requisite components they identified are now widely espoused, if not implemented: 1) presentation of materials, 2) demonstration of skills, 3) practice, 4) feedback, and 5) coaching. Sparks (1983), in an excellent synthesis of recent research on staff development, examines studies associated with each of these phases. Among her findings is that allowing adequate time for and guided assistance in teacher discussion following presentation seems to increase program productivity. One example is the effective-use-of-time workshops developed by Stallings (1980).

In fact, institutional support groups such as those pioneered in the I/D/E/A school change efforts are now common in many staff development projects and have demonstrated the ability to persist in group problem-solving over time (Bentzen, 1974). Sparks also reviewed some of the earlier studies (Borg, 1977) that demonstrated the effectiveness of microteaching in peer observation and feedback sessions — again, a procedure that appears little employed today in staff development schemes.

Perhaps the most insightful findings regarding this set of job-embedded activities concern the concept of coaching. Showers (1984) defines coaching as

follows:

Coaching occurs at the point where the trainee attempts to implement the new teaching strategy in the classroom. Coaches may be peers, supervisors, principals, college instructors, or others, who are competent themselves in the utilization of the new approach to teaching. That is, they have achieved vertical transfer themselves or are in the process of achieving it. In the classroom they coach the teacher as he/she takes the first steps toward the utilization of the model, help him/her figure out how to teach the students how to respond to it and to adapt it to match their characteristics, and provide support as the teacher takes the first steps toward the utilization of the new model....

Coaching, then, may be conceived as a combination of several elements: the providing of companionship, the giving of technical feedback, and the analysis of application. (pp. 4-5)

In her recent studies, Showers concludes that peer coaching can increase transfer of training if selected models of teaching are used. (Joyce and Wial, 1980). Showers reports that:

while in a previous study (Showers, 1982) it was hypothesized that coaching increased transfer of training partially by increasing practice with the new strategies, this did not appear to be the case in the present study. Uncoached teachers practiced as much or more with the new strategies in their classrooms.

Their practice, however, did not result in increased skill with the models, in more appropriate use of the strategies, or in increased student comfort with new instructional patterns. Apparently, for most teachers, practice alone will not ensure transfer of new strategies to classroom practice unless accompanied by feedback that specifically addresses the other elements of transfer. (p. 22)

Finally, Showers, like Bentsen, suggests that the effects of coaching appear to go beyond desired transfer and facilitate professional and collegial relationships generally; thus they contribute to all-school norms that build capacity for other types of change. How coaching can be accommodated in a variety of staff development activities needs further study.

Systematic study of pupils as a form of staff development. A fourth major type of job-embedded staff development includes variations on the systematic study of students, as exemplified from the 1930s to the mid '60s

in the child study movement. This program began at the University of Chicago but took on a national scope through efforts at the University of Maryland. Brandt (1976), one of the leaders of this movement, estimated that more than 70,000 teachers and administrators participated in at least a year of child study training, although such training is rare today.

This approach consists of (a) planning and engaging in direct, continuing, and systematic study of a child; (b) developing an ongoing and objective case record of that child; and (c) meeting with a small group of colleagues biweekly throughout the year to analyze and summarize these case records jointly. Consultants from sponsoring universities visited each group periodically, and a local coordinator was trained to provide interim assistance when needed. Teachers would typically remain in the group from one to three years. Increasing sophistication in observation, analysis, and interpretation skills was planned for each successive year.

The documented effects of the program extended beyond teachers' knowledge of child behavior and their ability to record and interpret that behavior. Attitudes and teaching patterns were altered over time as well. Hite and Howey (1977) reported that participation in the program also appeared to produce effects extending beyond the school:

Several effects were found in school and community patterns. Participating teachers made more home visits than non-participants. Human relationships within schools and between schools and communities seemed to improve considerably. When school systems had a high percentage of teachers involved in child study, the numbers were relatively low of children not promoted to the next grade, suspended from school, or sent to the principal's office. In addition, parent education programs became more significant(pp. 40,41)

Given the advances in our knowledge about multiple dimensions of child growth and development and their obvious relationship to curriculum planning and teaching behavior, it seems that variations of the child study movement and its extension to the external school environment warrant reconsideration today.

Teacher centers/advisories as a form of staff development. Teacher centers, while usually not directly embedded in school sites, frequently have direct links with classroom instruction. Teacher centers are certainly not as common today as they were during the 1970s and the early 1980s. A little over a decade ago there were estimated to be approximately 4,500 centers in this country (Schneider and Yarger, 1974). The curtailment in 1981 of federal monies that supported these centers contributed to a sharp decline in their numbers. Nonetheless, there are teacher centers today that represent a variety of organizational arrangements and serve a multiplicity of purposes.

Yarger (1976) attempted to typologize the variety of centers at the height of their popularity in this country. He identified several organizational types, ranging from those largely independent of existing educational bureaucracies to voluntary consortia and legally mandated "partnerships." He characterized these structures as three major functional types: facilitative, advocating, and responsive in nature.

Federal support for teacher centers in the late 1970s addressed a political as well as an educational agenda; it was designed to provide teachers with more of a voice in decisions regarding their continuing professional development. Thus, the possessive teachers' center was (and remains) favored by many over the term teacher center. There is little doubt that the most common type of center represents a strong teacher voice in governance and is

highly responsive to teacher needs as well. Devaney and Thorn (1975) suggested the following characteristics as the essence of a teacher center:

1. They offer teachers fresh curriculum materials and/or lesson ideas, emphasizing active, exploratory, frequently individualized classroom work, not textbook and workbook study.
2. These programs engage teachers in making their own curriculum materials, building classroom apparatus, or involve them in some entirely new learning pursuit of their own so as to reacquaint them with the experience of being active, exploratory learners themselves.
3. Teachers' center instructors are themselves classroom teachers, sharing their own practical, classroom-development materials; or they are advisors — formerly classroom teachers — who view their job as stimulating, supporting, and extending a teacher in her own directions of growth, not implementing a new instructional model or strategy.
4. Attendance at teachers' center classes is voluntary, not prescribed by the school district; or if indirectly required. . . programs offered are based on teachers' expressions of their own training needs, and several choices are offered. (pp. 3-4).

It is apparent from this description that the concept of a teacher center represents a general approach to teacher development as much as a physical structure. There was a definite emphasis on teacher development over time in many of the original centers in this country. For example, a concept of active staffing evolved in the Chicago Teachers Center. This four-stage personalized approach assisted teachers in resolving instructional problems (Hering and Hovey, 1982).

The physical and material dimension, however, was also a matter of critical importance in certain centers. Two of the best known centers in this country, the Workshop Center for Open Education in New York City and the Philadelphia Teacher Parent Center, went to great lengths to create physical environments that would influence how teachers engaged in curriculum and instructional activities. Certainly the thoughtful physical design and material arrangements of these centers could be incorporated into many existing

school settings. The profound interactions between physical setting and instructional activity have been little considered in planning for staff development, let alone studied. This oversight is one of several major limitations in our understanding of how best to promote continuing teacher development.

The most exhaustive study of teacher centers was conducted by Martens and Yarger (1981). In a subsequent paper, Martens (1981) traced findings from their two-year study of 53 federally funded teacher centers and found considerable congruence with the Rand Change Agent Study (Berman and McLaughlin, 1975). As indicated earlier, the Rand study examined 293 federally supported change efforts, commonly calling for some form of staff development. Martens reports the following parallel findings, among others, between activities in the federal centers and activities identified as contributing to desired implementation of some change in the Rand study:

Administrators and teachers make joint decisions about needs and project activities (Rand). (Teacher Centers - Although in a few instances there were some standoffs between school administrators and the policy boards, within a couple of months the typical policy board had evolved into a cooperative decision making body.)

Inservice activities are directed at teacher-identified needs to assure programming relevant to current classroom needs (Rand). (Teacher Centers - Where teacher centers differ from traditional inservice, is not so much in substantive focus -- it is on instruction of children -- but in how the inservice is delivered. The content tends to be narrowly targeted to meet specific requests and inservice is made available to teachers when they need it.)

There are resources for timely response to teacher identified needs (Rand). (Teacher Centers - Scheduling a workshop or course through a college or school district can easily take six months, often retarding responsive inservice programming. In contrast, teacher centers have been able to develop and deliver appropriate programming quite quickly. Six weeks rather than six months is more commonly the lead time required for teacher center programming.)

Small-group programming is central to the inservice program (Rand). (Teacher Center - More than half of the teacher center activities were

offered for small groups of (less than 15) teachers.

Inservice activities are offered during the school day (Rand). (Teacher Centers - Like the Rand study, the Teacher Center study found that probably the worst time to run inservice is after school. Activities offered after school attracted fewer participants than those offered at other times. Interestingly, many teachers participated in teacher center activities held on weekends and school holidays.)

Resources are available to provide ongoing support for individual teacher needs (Rand). (Teacher Centers - Teacher centers have established systems for providing continuous human and material support which focus on individual teacher day-to-day instructional concerns.)

There is an emphasis on local materials development (Rand). (Teacher Centers - Materials development has been portrayed by some critics as a simple "cut and paste" activity bordering on the trivial. But the prevalence of materials development was so strong in both studies that its importance must be recognized. . . . In the light of both studies, projects for the dissemination and diffusion of validated instructional materials need to be carefully evaluated. These projects are possibly missing a very important dimension of good classroom instruction--teacher-developed instructional materials appropriate for specific groups of children.)

The point of view that teachers are professionals pervades the school district (Rand). (Teacher Centers - Like the successful projects identified by Rand, the stance that teachers are professionals provides the very foundation for teacher centers). (pp. 3-7)

Teacher advisors. Teacher advisors, while not that common, have been attached to certain center programs (e.g., the Open Corridor Program in New York City) and staff development schemes (e.g., the Educational Confederation in St. Louis). Basically, advisors are outstanding teachers with strong interpersonal skills who work for short, intensive periods of time with another teacher in the classroom. They focus on the total practice of their colleague. They initiate relationships with the other teachers largely through listening and observing. Not only are teachers given an opportunity to be heard, but the problems attached to their relative isolation (Lortie, 1975; Sarason, 1976) are also addressed. Katz (1974) identified the following functions from her studies of advisors in St. Louis:

1. Providing inservice assistance to teachers only when such assistance has been requested by them;
2. Providing assistance in terms of the requestor's own goals, objectives, and needs;
3. Providing such assistance in situ rather than in courses, institutes, or seminars exclusively;
4. Providing assistance in such a way as to increase the likelihood that teachers become more self-helpful and independent rather than helpless and dependent. (p. 154)

Bussis, Chittenden, and Amarel (1976) underscore the developmental, analytical nature of this collegial relationship over time. A typical advisor spends a half-day or more on a weekly or biweekly basis with each teacher he or she works with. In this way, an advisor can work with ten or more teachers over a concentrated period of time.

Despite their different strategies and logistics, all the advisory programs shared the goal of helping teachers assume a more thoughtful and active role in influencing the educational environment. It follows, then, that their ultimate aim was not to provide isolated services or singular solutions to a particular problem, but to provide a range of support that would enable teachers to analyze situations and arrive at their own decisions about problems and solutions to them. Thus, the advisor's long-range goal was to perform an educative function. (p. 157)

It is fashionable today to talk about structural change or reform in teacher education. We suggest that one basic structural alteration would be to identify and train persons skilled in personal and professional development who could serve largely at the school site, much as an advisor does. The basis for this argument is as follows:

1. While not all staff development can or should take place at the school site (some of the purposes of staff development we identified earlier argue strongly for experiences away from the school), many productive growth activities can be more fully embedded in schools and, in fact, ongoing instructional activity. Numerous empirical studies now support this common sense notion.

2. In the great majority of schools no one person is currently responsible for teacher development. While principals are obviously important to the success of many developmental efforts, they simply do not now and will not in the future assume the primary role in staff development in most schools.

3. Some of the cost associated with this approach can be overcome through 1) a reallocation and retraining of personnel assigned elsewhere in the school bureaucracy (as Schlechty did in the Charlottesville-Mecklenburg schools) and 2) new career options that emphasize a leadership role in staff development on a part-time or temporary basis at a given school site.

4. As we have attempted to illustrate, there is a growing knowledge base to assist these school-site leaders. This database includes 1) knowledge of general purposes and forms of staff development, 2) knowledge of training activities and materials derived from studies of teaching effectiveness, 3) insights garnered from studies of human behavior and adult growth and development, and 4) knowledge of schools as social systems and as organizations.

Since staff development through school site leaders is not a widely implemented or well-researched concept, costs and benefits cannot be estimated precisely. Certainly, however, it appears that a skilled individual or team of individuals at the school site would contribute to a more continuing, coherent, and natural conception of teacher development. As Adelaide Sproul (1977) observed about her efforts in such a role as an advisor in the Boston Schools:

The real work which gets real results is only accomplished by quiet, persistent effort that stays on schedule. Over a stretch of several years this kind of commitment is more fruitful than any number of quick attempts. My memories of situations that have been continuous are full of the imagery of growth. Getting to know a school is a growing, evolving process and I am constantly startled at the changes one's perceptions go through. It is this process which helps make advisory work so satisfying. (p. 119)

At this point, we move from a discussion of general purposes and forms of staff development to a brief review of recent research related to core teaching skills and what these imply for the content of staff development.

Empirically Supported Content

Recently there have been several excellent reviews of the literature of studies concerned with teacher effectiveness. We referred to a few of these in the preservice program section. To reiterate, they include the chapter by Stallings (1982), "How Useful Are the Findings From the Research on Teaching?" in Changing Teaching Practices: Proceedings of a National Conference; The special summer 1983 edition of the Elementary School Journal (Good, 1983); The Characteristics of Effective Teacher Preparation Programs: A Review of Research (Evertson, Hawley, and Zlotnick, 1984); Using Research to Improve Teacher Education (Egbert and Kluender, 1984); and Research on Effective and Ineffective Classroom Practices in Chapter One Schools in the Los Angeles Unified School District (Dorr-Brenne, Keasling, and King 1984).

We briefly review here those areas where research suggests that training materials could be further developed or refined for use not only in staff development formats but in preservice education as well. Evertson, Hawley, and Zlotnick (1984) note that a number of sensible findings from recent research are generic enough in nature to be understood by all teachers, who can adapt them to instructional variations in context, learning objectives, and student need. Evertson and her colleagues refer to these as core teaching skills (CTS). They place these recent studies of teaching in what we believe to be an appropriate perspective when they write:

Findings from these studies produced a growing body of knowledge about the relationships between teaching practices and student learning in the basic skill areas which can support educational policy decisions. Some cautions

are in order, however, the bulk of the research was conducted at the early elementary grades in basic skills areas in schools serving primarily low socio-economic status populations. When attempting to use findings to inform practice it is important to consider the various contexts such as grade level, sex of student, SES level, ability level in which teaching takes place. In cases where researchers have allowed context comparisons, findings across contexts reveal a different pattern of results. Examination of the findings from studies of teaching indicate there are few if any teaching skills which will apply at all times in all settings. (p. 15)

Effective use of time. The first core skill(s) these scholars identify is concerned with maximizing academic learning time (ALT), a widely discussed concept that first evolved from research in the Beginning Teacher Education Study (Fisher et al., 1978). ALT is a combination of the time scheduled for students to work on specific academic tasks (allocated time); the proportion of that allocated time in which students are actually engaged in the desired tasks (engaged time) and a determination of the appropriateness of those tasks as measured by how well the students perform (student success). Increases in ALT led to increases in student achievement.

The key to increased achievement — once time is committed consistent with the weight attached to a particular instructional goal or set of goals — is productively and humanely engaging students — a long-standing problem. Stallings (1982) acknowledges the challenge here:

While keeping students on-task may seem like a simplistic notion, it is a rather complex undertaking to make this construct useful in the classroom. Teachers need to know more than just to allocate additional time to academic activities and to keep students on-task. They need to know how to make expectations clear to students; how to use time effectively in a variety of activities; how to vary time with different achievement groups; and how to provide appropriate lessons and support to keep students on-task. (pp. 5-6)

While research into the relationships between time-on-task and academic achievement has been incorporated into some teacher training materials, as Stallings suggests there are many facets involved in achieving desired levels

and forms of student engagement; unquestionably, there is still room for further research and development in this area. Stallings (1980), for example, has extended the study of time-on-task relative to teaching effectiveness into the secondary school context. Ebert and Kluender (1984), in their review of time as an element of success in schools, refer to a number of related studies where time appears to be a key variable encompassing: teachers covered by collective bargaining (Eberts and Pierce, 1982); mainstreamed children (Knowles et al., 1982); nontraditional settings (Falk, 1983), and good and poor readers (Allington, 1982).

Classroom management. A second core teaching skill identified by Evertson and her colleagues focuses on managing and organizing the classroom. Effective management skills are crucial; Good (1983) reported that they teacher effectiveness in every major study. effectiveness. Also, in Veenman's (1984) international review of problems associated with the beginning teacher, study after study indicated classroom management and student discipline as major areas of concern for both elementary and secondary teachers.

Recent research has suggested that some practices are more effective than others. Evertson and Emmer (1982) and Emmer, Evertson, and Anderson (1980), in their studies at the Texas Research and Development Center for Teacher Education, identified successful teachers as managers who:

- Planned the classroom rules and procedures in detail prior to the beginning of school and taught these to students.
- Made clear the consequences and rewards for appropriate and inappropriate behavior.
- Kept students accountable for academic work.
- Provided time for explanation, rehearsal, and feedback of academic content. (Emmer, Evertson, & Anderson, 1980, p. 220)

As Evertson and her associates suggest, a variety of factors are involved

in and strategies available for establishing a context for learning and for minimizing non and counterproductive behavior. Some approaches which focus on means to counter disruptive behavior, as in Gordon and Burch's Teacher Effectiveness Training (1974) or Cantor and Cantor's Assertive Discipline 1976. A second orientation emphasizes carefully planned, appropriately pitched, and responsively paced instruction, as represented in the work of Evertson and Emmer above and by the proponents of direct instruction (Rosenshine, 1983). A third orientation focuses specifically on altering the social structure of the classroom; it is seen in the research and training models of Slavin (1980) which promote cooperative learning.

Interactive teaching. The third CTS identified by Evertson, Hawley, and Zlotnik (1984) concerns interactive teaching strategies. Rosenshine (1983) reviewed seven experimental studies where teachers were trained in such activities as establishing clear expectations, providing immediate feedback, or focusing on the reduction of interruptions. He identified six common functions in an interactive or direct approach to teaching, including:

1. Daily review, checking previous day's work, reteaching (if necessary).
2. Presenting new content skills.
Providing overview.
Proceed in small steps at a rapid pace.
3. Initial student practice.
High frequency of questions and overt student practice.
Prompts provided during initial learning.
4. Feedback and correctives (recycling of information if necessary).
5. Independent practice so that students are firm and automatic.
Seatwork.
Unitization and automaticity (practice to over-learning).
Need for procedure to ensure student engagement during seatwork
95% correct or higher.
6. Weekly and monthly reviews: reteaching if necessary.

Independent investigators have arrived at parallel conclusions regarding effective instruction, which certainly lends conviction to these findings. For example, Hyman and Cohen (1979) suggest several elements of instruction that contribute to student participation and the achievement of mastery and are similar to the instructional elements deduced by Rosenshine: They suggest that the effective teacher needs to:

1. Define instructional objectives behaviorally so that learner and teacher know exactly where they are, where they are going, and where they have been.
2. Modularise learning by cutting down the bites to small, self-contained nibbles. Closure is the most potent of all positive feedback techniques. The smaller the bite, the more immediate the closure.
3. Control the stimulus so we know exactly what the learner is responding to. That is a major problem in commercially published materials.
4. Go directly to the defined behavior -- that is, direct teaching of the behavior or "attitude" sought rather than "building to it" or around it.
5. Check for understanding and provide immediate feedback to all learner responses. The more immediate the feedback, the more efficient the learning.
6. Rig the level of instruction so that feedback is maximally positive. Success breeds success. Provide lots of "warm fuzzies," too.
7. Reinforce by positive feedback the learner's critical response. The critical response is the one that responds to the appropriate stimulus defined precisely by the instructional objectives.

Good (1983) reminds us that these patterns of teacher behavior are ways of looking at and thinking about classroom instruction, not a set of behavioral prescriptions. Good prefers the term active teaching as a construct for characterizing the teaching role because it has applications for both teacher-led forms of instruction and teams of student learners. He writes:

I use the term active teaching rather than direct instruction (which has been used to describe the pattern of behavior of teachers who obtain greater-than expected achievement from students) because the former represents a broader concept of teaching than does the existing research base. In active teaching, the initial style may be inductive or deductive; student learning may be self-initiated or teacher-initiated (especially if thorough critique and synthesis activities follow students' learning attempts). Active teaching also connotes a broader philosophical base (it may occur in classrooms using a variety of organizational structures) and should become somewhat less direct as students become more mature and instructional goals more focused on affective and process outcomes. (p.59)

Walberg and Wnoman (1983) appear to share Good's perspective about the multidimensional aspects of instruction and the purposes to which it can be directed. They make a substantive contribution in thinking about models of teaching by reminding us that there are a number of unresolved conceptual and practical problems concerning teaching strategies. They review four major strategies that vary considerably in terms of the relative contributions that the teacher, the student, and the instructional materials make in terms of control, scope, goals, pace, sequence, and actual means of instruction. They identify these as: laissez-faire instruction, authoritarian or direct instruction, programmed instruction, and open education (the latter appears more than a strategy from our perspective). They note that positive gains are revealed in reviews of studies of each of these four types. Given the current preoccupation with direct instruction, it is interesting to note their observation from major reviews of types of open instruction (Horwitz, 1979; Peterson and Walberg, 1979; Hedges, Giacomia, and Gage, 1981; Giacomia and Hedges, 1982):

At any rate, it appears from the two most comprehensive syntheses of effects that unless they are radically extreme, open classes on average enhance several nonstandard outcomes without detracting from academic achievement. (p. 50)

In addition to reviewing elements of content-free strategies supported by recent empirical studies (noted above), Walberg and Wnoman review the classroom

management and social cooperation models. They provide an overview of Joyce's families of instruction and conclude by identifying what they refer to as systems of education:

Just as teaching strategies are ensembles of skills or behaviors, systems of education such as Individually Guided Education and Individually Prescribed Instruction (Talmage, 1975; Glaser, 1976) focus on teaching strategies and other educational components. Because of the cognitive, emotional, and behavioral demands of teaching, advanced strategies are difficult to implement and maintain in conventional schools. However, complex systems of educational management and support make it possible to carry out sophisticated individualized and cooperative strategies to increase both learning and socialization.

One comprehensive, modern, and efficient system that addresses such goals is the Adaptive Learning Environments Model developed at the Learning Research and Development Center at the University of Pittsburgh (Glaser, 1977; Wang, 1980, 1983). The model combines materials and procedures for staff development, team teaching, and individualized and cooperative small-group learning with extensive student choice; peer tutoring, teacher-prescribed lessons for basic skills, and management and support components. The model brings together strategies such as acceleration and open exploratory learning discussed in previous sections of this article. The developers based the model on advanced psychological research and employed extensive evaluation of both the individual components and the system as a whole. (p. 52)

Thus, there is a wide range and complex hierarchy of teaching strategies and a diverse empirical base to consider in deciding upon an instructional focus in programs of staff development.

At one level, critical but relatively singular skills such as providing clear directions can serve as the content for staff development. A number of these skills were identified in a recent study of Los Angeles County teachers (Dorr-Brenne, Keeling and King, 1984) determined that:

More effective teachers routinely maintain much greater continuity from one lesson to the next throughout a unit than the other teachers.

- . More effective teachers routinely arrange their lessons so that concepts and skills develop in logical sequence from day to day.
- . In addition, more effective teachers make the links between the lessons explicit to the students....

More effective teachers develop concepts and skills purposefully, incrementally, and thoroughly.

- . More effective teachers spend more time introducing and building knowledge of each new concept or skill.
- . More effective teachers provide more diverse ways to understand, manipulate, and/or practice each new concept and skill.

More effective teachers' questioning strategies progress from knowledge-level questions to deeper levels of comprehension, analysis and evaluation.

- . More effective teachers develop their own line of questioning, rather than relying exclusively on the teacher's guide or questions in the text.
- . More effective teachers, in developing their own line of questioning, are able to adapt to student vocabulary and levels of experience. (pp. 5-6)

Again, at this level, specific training materials and activities would focus on a specific teaching technique, such as questioning strategies. At another level, a cluster of related teacher practices, such as those identified in interactive or direct teaching, would become the focus of the staff development project. A third option would be to expand a teacher's range of strategies to better accommodate the spectrum of educational purposes that schools serve. Joyce's models of teaching would be appropriate to this end, as would the four major strategies identified by Walberg and Waxman. Finally, what latter scholars refer to as a system of education presents yet a more comprehensive and complex challenge to staff developers.

Certainly it is necessary to go beyond research "findings" that support various tactics, strategies, or systems in deciding directions for improving of instruction. Assumptions made about teaching and learning in these various strategies should be carefully considered. Walberg and Waxman (1983) illustrate this in terms of the different types of grouping different instructional strategies call for:

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Models or strategies that employ individual, small-group, and large-group organization make different assumptions about the nature of learners. Individual grouping assumes that students learn according to their own aptitudes, rates, or styles. Small-group instruction assumes that subgroups of students sharing the same levels of aptitude or other characteristics may be identified to increase learning efficiency. Large group instruction assumes that all students in the group share the same levels of aptitude. Such instruction may be easier for the teacher to supervise using conventional strategies; small groups may foster cooperative skills; and individual pacing, if efficiently adapted to each student's needs, may, in principle, provide the most efficient learning. (p. 49)

Decisions regarding instructional strategies are filtered through beliefs and values, as well as daily realities in terms of time, materials, and physical energy. We appear to be at a point where we know more clearly how to engage and sustain productive student activity, albeit from very different points of departure in terms of teacher and student influence. This knowledge base should facilitate more complex instruction. There are, however, a number of related factors that must be attended to as well. A teacher is not likely to emphasize more complex and divergent forms of thinking in the classroom if the text materials do not support this, if standardized tests penalize her or him for pursuing this direction, or if the expectation of a senior teacher of these same students the following year contravenes in some way. Stallings (1982) suggests considering these factors in our next steps for research and development:

In the last decade, we have studied schools in isolation, classrooms in isolation from schools, and students in isolation from classrooms and schools. Findings regarding the percent of student time-on-task will not necessarily help a teacher do a better job. The teacher needs school policies that will support the good use of classroom time. The teacher also needs specific information about which students are off-task during which activities, so that adjustments can be made.

The charge of the '80s is to study the whole school context. Taking into consideration together the results of this research combined with the empirical findings generated during the research in the 1970's may enable us to generate a comprehensive and practical theory of effective schooling. (p. 20)

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Characteristics of Effective Programs

Our review of this literature and our professional experiences suggest the following as tentative criteria to which standards can be applied in reviewing and designing programs of staff development.

1. The program has a mission statement, policy guidelines, goals, resources, budget, and personnel. (Qualitative standards must be set to assess each of these. For example, it could be decided that the mission statement should be undergirded by an explicit set of assumptions about adult learning and development, or that the director of the program should have a line position of authority and budgetary control within the organizational structure.)
2. Teachers, as the primary participants, have a preminent voice in governing the program.
3. Determination of the program agenda (needs assessment) is a multi-dimensional process. It engages teachers in the identification of problems that affect them and their students. (This includes considering the how, where, when, with whom, and why of staff development, as well as what is the primary interest or need.)
4. The program is able to address multiple, interrelated purposes. (As indicated earlier, these could include personal, cognitive, theoretical, professional, and career needs.)
5. The program acknowledges the reality of different teacher roles and role-relationships and their implications for staff development. (In the former instance, the primary purpose of staff development could be to address an unrealistic role; in the latter, to leverage a specific role-relationship into an ongoing growth activity.)

6. The program employs a variety of strategies and forms of development beyond the workshop and lecture-discussion formats. (Several of these forms were stated earlier).

7. Staff development is viewed as a continuing developmental process; that is, specific projects are planned in light of the school context, and follow-up is provided in that setting.

8. The program is able to support a skilled person or persons responsible for planning and managing activities at the school site. (A variety of growth activities can be embedded in the ongoing activities of teachers, and the program attends to this.)

9. The program addresses a balanced agenda of goals; that is, individual goals are accommodated within and outside the context of broader institutional goals, whether at the state, local, or school level.

10. While schools generally are a realistic unit for the design of a staff development plan; attention is given to individuals and especially to key functioning groups within the school. Various activities are planned with expert resources outside the school context.

We believe that the Laboratory could help identify, refine, and explicate standards of excellence such as these. This activity would also assist in identifying exemplary policies and practices within the region.

Criteria for Assessing Effective Staff Development Projects

Increasingly, targeted curricula or training materials or a combination of the two are being developed and employed as the primary form of staff development for many teachers. Just as criteria can be identified to assist in the review and design of programs of staff development, it is possible as well to provide an initial set of guidelines for reviewing such projects or packages.

Again, an appropriate function for the Laboratory would be to contribute to guidelines for the assessment and development of staff development projects like the ones suggested here:

1. The empirical base for the training materials is thoroughly reviewed.
2. Major assumptions relative to teaching and learning are made explicit.
3. The type of training, if necessary, and costs associated with it are described.
4. Objectives of the materials and expected standards of performance are specified.
5. Evaluation data from previous use or piloting of the materials are available, including assessments of both consumer satisfaction and cost-effectiveness.
6. Quality protocols, whether written or visual, that support the attainment of desired concepts and skills are included.
7. Core activities, if necessary, that contribute to teacher development are addressed, including information on how demonstration, practice, feedback, and coaching will be accomplished.

Conclusions

Just as at the outset of this section numerous studies and reviews of the literature were noted that identified elements of effective programs, literature reviews can be used to identify common limitations in this phase of teacher education (Joyce, Yarger, and Howey, 1977; Barman and McLaughlin, 1975; Griffin, 1982; Howey and Vaughan, 1983; Sparks, 1983). A number of these common limitations are listed here to provide a backdrop and perhaps some assistance in determining the Laboratory's priorities in terms of staff development:

1. The research base on staff development is weak in terms of describing what exists, let alone what is effective. Thus, many references were included in this review that addressed the problems attached to research and development into staff development. (It is also imperative that teachers themselves participate more fully as partners in these R & D efforts.)
2. Staff development activities are infrequently related to measures of change in teacher behaviors or student learning outcomes.
3. Staff development in many situations remains largely an undifferentiated concept. The modal form of inservice still appears to be either lecture-discussion or a workshop format. More research and development are needed relative to variations in clinical supervision, organizational development, cooperative problem solving, child study, and self-directed forms of staff development.
4. As critical as the need is for staff development projects to build on empirically supported teaching strategies and instructional materials, purposes other than pedagogical development need to be served. These include personal development, cognitive development, theoretical development, professional development, and career development. These purposes are not mutually exclusive but rather interrelated in powerful ways, and they need to be considered as more powerful and intensive staff development interventions are designed.
5. Classroom-relevant and empirically supported content and skills, such as teaching higher-order thinking, need to be better adapted to staff development formats.
6. There is a need for well-conceived follow-up activities to those inservice activities pursued outside the school or classroom context. These classroom activities can incorporate forms of peer instruction and even student

involvement. They should also incorporate more demonstration, coaching, and opportunities for practice with feedback.

7. More conceptually coherent staff development programs are needed that attend both to the school as an organization and a social system and to the teacher as a person and a professional. Major context variables such as administrative support, general school norms or conventions, and teacher role-relationships are too often not considered.

8. There is a need to address more fully the question of what will motivate teachers to participate in authentic ways in staff development activities. While monetary reimbursement and release time are obviously important factors, there are other major considerations. For example, these activities should be viewed as personally relevant and powerful enough to improve teacher competence and/or alter conditions in the school in significant ways.

9. Staff development is often presented and perceived as a way to correct a deficit rather than as a normal growth experience, a perception that further diminishes the image of teachers. This review emphasizes job-embedded forms of staff development.

10. There is a fundamental need to prepare staff development specialists who can work largely at individual school sites. (There is also an emerging database to guide the preparation of such individuals.)

11. Too often the staff development activity focuses solely on the teacher as the party responsible for improving instruction, without sufficient attention to other organizational, social, and political factors in the school and school community.

Recommendations

Given the various concerns noted in this section, we suggest the following priorities in the Laboratory's action plan:

1. The development of a conceptual framework that addresses the concept of staff development in terms of the multiple purposes it can serve, the major modes that can characterize this activity, and the core elements of these different modes or instructional formats. Indicators of quality attached to the achievement of different purposes would be included.
2. The use of this framework and the quality indicators or characteristics demonstrated as effective in different approaches to identify exemplary practices in the region. These practices should be described in a detailed manner consistent with the framework derived and the quality indicators identified. The result would be a typology of six to eight general approaches, with multiple examples of each type as identified within (and if necessary, outside) the region. Selected sites would be eligible for further R & D support and be expected to serve as demonstration centers.
3. A review of the literature and existing materials and training formats that address leadership training for staff developers. The Lab should collaborate in the sponsorship of actual leadership training, as supported by this review work, as well.
4. The provision of competitive small grants to teams of researchers, staff developers, and teachers who meet specified criteria for collaborative action research and who want to study the staff development needs and dimensions of these collaborative efforts.
5. The conduct of a comprehensive study of the many ways capacity-building can occur at the district and local school level, specifically to

enable more school-focused and job-embedded forms of staff development to occur. Major emphasis should be on what practical role the regional Laboratory might assume in assisting in this developmental process.

Bibliography

- Adams, R. D. (1982). Teacher development: A look at changes in teacher perceptions and behavior across time. *Journal of Teacher Education*, 33 (4), 40-43.
- Adler, S. (1982). An historical analysis of early field experiences. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Allington, R. L. (1982, November). Content coverage and contextual reading in reading groups. Paper presented at the 72nd annual meeting of the National Council of Teachers of English, Washington, DC: NE 228 604.
- Anderson, B., & Mark, J. (1977). Teacher ability and productivity in a metropolitan area — A seven year old study. *Urban Education*, 12(1), 15-36.
- Anderson, L., Everteen, C., & Brophy, J. (1979). An experimental study of effective teaching in first grade reading groups. *Elementary School Journal*, 79, 193-223.
- Arends, R. L., Reinhard, D. L., & Sivage, C.A. (1981). The educational dean: An examination of behaviors associated with special projects. *Journal of Teacher Education*, 32 (5), 14-20.
- Barnes, S. (1981). Synthesis on selected research on teaching findings. Austin: University of Texas Research and Development Center for Teacher Education.
- Barth, R. (1972). Open education and the American school. New York: Agathon Press.
- Becker, H. (1952). Social class variations in the teacher-pupil relationship. *Journal of Educational Sociology*, 25(57), 223-231.
- Bennis, W., Bennis, K., & Chin, R. (1969). The planning of change. New York: Holt, Rinehart & Winston.
- Bents, R. H. (1978). A study of the effects of environmental structure on students of differing conceptual levels. (Doctoral dissertation, University of Minnesota, 1978). *Dissertation Abstracts International*, 39, 5456-5457A.
- Bents, R. H., & Hussy, K. R. (1981). Staff development — change in the individual. In B. Dillon-Peterson (Ed.), Staff development/organization development (pp.11-36). Alexandria, VA: 1981 Yearbook of the Association for Supervision and Curriculum Development.

- Bertzen, M. (1974). Changing schools: The magic feather principle. New York: McGraw-Hill.
- Berliner, D. (1983). Executive function of teaching. Instructor, 23, 28-33.
- Berman, P., & McLaughlin, M. (1975). Federal programs supporting educational change. Vol. 4: The findings in review. Santa Monica: Rand Corp.
- Bernstein, R. (1976). The restructuring of social and political theory. Philadelphia: University of Pennsylvania Press.
- Boyer, L. E., & Zeichner, K. M. (1982). Teacher training and educational foundations: A plea for discontent. Journal of Teacher Education, 33(3), 18-23.
- Bishop, J. (1977). Organizational influences on the work orientations of elementary teachers. Sociology of Work and Organization, 4(2), 37-50.
- Bonoma, T., Tedeschi, J., & Halm, B. (1974). Some effects of target cooperation and reciprocated promises on conflict resolution. Sociometry, 37(2), 149-162.
- Book, C., Byers, J., and Freeman, D. (1983). Student expectations and teacher education traditions with which we can and cannot live. Journal of Teacher Education, 34(1), 9-13.
- Book, C., Freeman, D., and Brousseau, B. (1984). Consequences of demographic characteristics and bases for career aspirations of education and non-education majors. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Borg, W. R. (1977). Changing teacher and pupil performance with protocols. Journal of Experimental Education, 45, 9-18.
- Borkov, M. B., and Jordan, K. F. (1983). The teacher workforce: Analysis of issues and options for federal action. Washington, DC: Library of Congress - Congressional Research Service.
- Borrowsen, M. (1965). Teacher education in America. New York: Teachers College Press.
- Boyer, E. L. (1983). High school: A report on secondary education in America. New York: Harper and Row.
- Brandt, R. M. (1976). The child study movement. Cultural pluralism and social change, IRIE, Report V. A monograph on the Inservice Teacher Education Concepts Project, sponsored by the National Center for Education Statistics and the Teacher Corps. Palo Alto, CA.
- Braunstein, D., & Schwartz, H. (1985, January). Organizational myths, scripts and retrospective sensemaking. Paper presented at the Meadow Brook Research Symposium, Rochester, MI.

- Brado, E., & Fairberg, W. (1982). Knowledge and values in social and educational research. Philadelphia: Temple University Press.
- Broudy, H. S. (1980). What do professors of education profess? The Educational Forum, 44(4), 441-451.
- Brown, B., & Saks, D. (1975). The production and distribution of cognitive skills within schools. Journal of Political Economy, 83(3), 19-34.
- Bruno, J., & Docher, M. (1981). Contributing to the harms of racial isolation: Analysis of requests for teacher transfer in a large urban school district. Educational Administration Quarterly, 27(2), 93-108.
- Buckman, M. (1985, January) Improving education by keeping educational research and practice apart. Paper presented at the Shadow Brook Research Symposium, Rochester, MI.
- Burrallo, L. C., and Ostrough, T. (1982). Redefining the known and the unknown in inservice education. Ehi Delta Forum, 52(6), 385-388.
- Burns, A. M., Chittenden, E. A., and Amarel, M. (1976). Beyond surface curriculum: An interview of teachers' understandings. Boulder, CO: Westview Press.
- Byrd, D. (1981). Do educational constituency groups agree on topics for professional development? Action in Teacher Education, 3(1), 77-90.
- Canter, L., & Canter, M. (1976). Assertive discipline. Los Angeles, CA: Authors.
- Carr, W., & Kemmis, S. (1983). Becoming critical: Knowing through action research. Victoria, Australia: Deakin University.
- Champion, R. (1984). Faculty reported use of research in teacher preparation courses: Six instructional scenarios. Journal of Teacher Education, 35(5), 9-12.
- Chapman, D. W. (1983). A model of the influences on teacher retention. Journal of Teacher Education, 34(5), 434-9.
- Chapman, D. W., and Hatcheson, S. M. (1982). Attrition from teaching careers: A discriminant analysis. American Educational Research Journal, 19(1), 93-105.
- Chapman, D. W., & Louther, M. A. (1982). Teachers' satisfaction with teaching. Journal of Educational Research, 75(4), 241-247.
- Chiefs to seek major role in accreditation of education programs. (Nov. 21, 1984). Education Week, 4(8), 2.
- Christensen, J. (1981). Professional development: What do teachers think? Action in Teacher Education, 3(1), 77-90.

- Clark, D. L. (1984). Better teachers for the year 2000: A proposal for the structural reform of teacher education. Ehi Delta Epsilon, 55(2), 116-120.
- Clark, D. L. (1984). Transforming the contexture for the professional preparation of teachers. In L. G. Katz & J. D. Potts (Eds.), Advances in teacher education. Norwood, NJ: Ablex Publishers.
- Clark, D. L. (1977). The real world of the teacher educator: A look to the future. Washington, DC: American Association of Colleges for Teacher Education.
- Clark, D., & Gaba, E. (1976). Research on institutions of teacher education. Washington, DC: National Institute of Education.
- Clark, D., & Marker, G. (1975). The institutionalization of teacher education. In Ryan, K. (Ed.), Teacher education: The seventy-fourth yearbook of the national society for the study of education. Chicago: University of Chicago Press.
- Olsen, E. (1981). Sociology looks at team teaching. In Corwin, R. (Ed.), Research in sociology of education and socialization. Vol. 2: Research on educational organization. Greenwich, CT: JAI Press.
- Cole, B. R. (1983). Administrative effectiveness of deans of education on decisions affecting teacher education. Journal of Teacher Education, 34(4), 48-51.
- Coleman, J., Campbell, E., Hixson, C., McFertland, J., Mood, A., Wainfeld, E., & York, R. (1966). Equality of educational opportunity. Washington, DC: U.S. Government Printing Office.
- Comaux, P. (1971). A follow-up study of 1967-70 cooperative urban teacher education graduates. Kansas City, MO: Mid-Continent Regional Educational Laboratory.
- Connally, F., & Clandinin, D. (1985, January). Narrative history and the study of minded practice: Narratives of reference. Paper presented at the Meadow Brook Research Symposium, Rochester, MI.
- Copeland, W. D. (1981). Staff development via colleague training. In K. R. Howe, R. Bents, and D. Corrigan (Eds.), School-focused inservice: Descriptions and discussions (pp. 143-157). Reston, VA: Association of Teacher Educators.
- Corey, S. (1983). Action research, fundamental research and educational practices. Teachers College Record, 50, 509-14.
- Corrigan, D. (1984). Screens and magnets for improved quality. Mineograph, College Station: Texas A & M University.
- Cyphert, F. (1981). Administrative leadership in inservice. Mineograph, Columbus: The Ohio State University.

- Darling-Hammond, L. (1984). Beyond the commission reports: The coming crisis in teaching. Santa Monica, CA: The Rand Publication Series.
- Darling-Hammond, L., & Wise, A. (1984). Testing teachers for certification: An overview of the issues. Paper presented for the Minnesota Higher Education Coordinating Board.
- Dearman, W. B., and Plisko, V. W. (1980, 1981, 1982). The conditions of education: Statistical report. Washington, DC: National Center for Education Statistics.
- Deutsch, M. (1949). An experimental study of the effects of cooperation and competition upon group process. Human Reality, 2(4), 32-40.
- Devansy, K., & Thorn, L. (1975). Exploring teachers' careers. San Francisco, CA: Far West Laboratory for Educational Research and Development.
- Dewey, J. (1904). The relation of theory to practice in education. In C. M. Kistner (Ed.), Third yearbook of the national society for the study of education. Chicago: University of Chicago Press.
- Dorr-Brenna, D., Reesling, W., & King, N. (1984, September). Research on effective and ineffective classroom practices in chapter 1 schools. (Publication No. 450). Los Angeles, CA: Los Angeles Unified School District.
- Doyle, W. (1980). Research on teaching in classroom environments. In Hall, G., Hord, S., and Brown, G. (Eds.), Exploring issues in teacher education. Austin: University of Texas Research and Development Center for Teacher Education.
- Ducharme, E. R., and Agne, R. M. (1982). The educational professoriate: a research-based perspective. Journal of Teacher Education, 33(6), 30-36.
- Dunathan, A. T. (1979). Midwest schools face shortages of good teachers. Phi Delta Kappan, 61(2), 121-123.
- Dworkin, A. (1980). The changing demography of public school teachers: Some implications for faculty turnover in urban areas. Sociology of Education, 53(2), 65-73.
- Eberts, R. W., & Pierce, L. C. (1982). Time in the classroom: The effect of collective bargaining on the allocation of teacher time. Eugene, OR: Center for Educational Policy and Management.
- Edwards, S. (1984). Local implementation of teacher induction programs. Austin: University of Texas Research and Development Center for Teacher Education.
- Edwards, S. (1983). Clinical preservice activities: Education, development, training — Three case studies. Austin: University of Texas Research and Development Center for Teacher Education.

- Edwards, S. (1981). Changing teacher practice: A synthesis of relevant research. Austin: University of Texas Research and Development Center for Teacher Education.
- Egbert, R. L., & Klunder, M. M. (Eds.). (1984). Using research to improve teacher education: The Nebraska Consortium. (Teacher Education Monograph No. 1). Washington, DC: AACTE/ERIC Clearinghouse on Teacher Education.
- Egans, R. (1981). Analysis of four different approaches to teacher education. College Student Journal, 15(3), 209-216.
- Emser, E., Evertson, C., & Anderson, L. (1980). Effective classroom management at the beginning of the school year. Elementary School Journal, 80, 219-231.
- Evertson, C., & Emser, E. (1982). Preventive classroom management. In D. Duke (Ed.), Helping teachers manage classrooms. Alexandria, VA: Association for Supervision and Curriculum Development.
- Evertson, C., Heday, W., & Klotz, M. (1984). The characteristics of effective teacher preparation programs: A review of research. Prepared for the Education Analysis Center, Office of Planning, Budget, and Evaluation, U.S. Department of Education.
- Falk, J. H. (1983). Time and behavior as predictors of learning. Science Education, 67(2), 267-276.
- Fay, A. (1970). The effect of cooperation and competition on learning and recall. Master's thesis, George Peabody College, Vanderbilt University, Nashville, TN.
- Feistritzer, C. E. (1984). The making of a teacher. Washington, DC: National Center for Education Information.
- Feistritzer, C. E. (1983). The American teacher. Washington, DC: Author.
- Fenstermacher, G. D., & Berliner, D. C. (1983). A conceptual framework for the analysis of staff development (A Rand Research Note, N-2046-NIX). Santa Monica, CA: The National Institute of Education.
- Fisher, C., Filby, W., Harliave, R., Cohen, L., Dishaw, M., Moore, J., & Berliner, D. (1978). Teaching behaviors, academic learning time and student achievement: Final report of Phase III-B. Beginning Teacher Evaluation Study. San Francisco: Far West Laboratory for Educational Research and Development.
- Florio-Ruane, S. (1985, January). The written literacy forum: Research knowledge and teachers' knowledge. Paper presented at the Meadow Brook Research Symposium, Rochester, MI.
- Freeman, D., et al. (1979). Survey of M.S.U. graduates of five student teaching programs. East Lansing: Michigan State University.

- Freeman, R. B. (1976). A cobweb model of supply and starting salary of new engineers. Industrial and Labor Relations Review, 29, 236-248.
- Freeman, R. B. (1975). Supply and salary adjustments to the changing science manpower market: Physics, 1948-73. American Economic Review, 65, 37-39.
- Freeman, R. B., and Brunner, D. (1974). Forecasting the Ph.D. labor market: Pitfalls for policy. Washington, DC: National Board of Graduate Education.
- Freiberg, H. (1985). Master teacher programs: Lessons from the past. Educational Leadership, 42(4), 16-21.
- French, R. (1985). Dispelling the myths about Tennessee's career ladder program. Educational Leadership, 42(4), 9-15.
- Fullan, M. (1982). The meaning of educational change. New York: Teachers College Press, Columbia University.
- Fuller, F. (1980). Concerns of teachers: a developmental conceptualization. American Educational Research Journal, 17, 207-236.
- Fuller, F., & Bown, O. (1975). Becoming a teacher. In K. Ryan (Ed.), Teacher Education. Chicago: University of Chicago Press.
- Fullerton, M. H. (1978). Issues in the role of dean. Journal of Teacher Education, 29(5), 23-25.
- Galambos, E. (1980). The changing labor market for teachers in the south. Atlanta, GA: Southern Regional Education Board.
- Gall, M. D., Haisely, F. B., Baker, R. G., & Peres, M. (1984). The current status of staff development activities for teachers: A "loose coupling" interpretation. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Gallup, A. (1985). The Gallup poll of teachers' attitudes toward the public schools: Part 2. Epsilon Delta Epsilon, 66(5), 323-330.
- Gehrke, N. (1976). A grounded theory study of beginning teachers' role personalization through reference group relations. Journal of Teacher Education, 27(6), 34-38.
- Gehrke, N. (1976). The role personalization of beginning secondary teachers: A grounded theory study. Doctoral dissertation, Arizona State University, Tempe, AZ.
- Giaconia, R. M., & Hedges, L. V. (1982). Identifying features of effective open education. Review of Educational Research, 52, 579-602.
- Gideonse, H. (1984). Guiding images for teaching and teacher education. Paper presented before the National Commission on Excellence in Teacher Education, New York.

- Gilligan, C. (1979). Women's place in man's life cycle. Harvard Education Review, 49(4), 431-446.
- Glassberg, S. (1977). Peer supervision for student teachers: A cognitive-developmental approach to teacher education. (Doctoral dissertation, University of Minnesota). Dissertation Abstracts International, 28: 10, 6068A.
- Goldhammer, R. (1969). Clinical supervision: Special methods for the supervision of teachers. NY: Holt, Rinehart & Winston.
- Good, T. L. (1983). Recent classroom research: Implications for teacher education. In D. C. Smith (Ed.), Essential knowledge for beginning educators. Washington, DC: AACTE/ERIC Clearinghouse on Teacher Education.
- Good, T. (1982). What is learned in schools: Responding to school demands in grades K-6. Paper presented for the Commission on Excellence in Education, Washington, DC.
- Good, T. (Ed.). (1983, Summer). Research on teaching (Special issue). Elementary School Journal, 83(4).
- Goodlad, J. I. (1984). A place called school. New York: McGraw-Hill.
- Gordon, T., & Burch, N. (1974). TET: Teacher effectiveness training. NY: Peter H. Wyden.
- Green, M. (1984). Perspectives and visions: Rationales for "foundations" in teacher education. In J. Denton, W. Peters, & T. Savage (Eds.), New directions in teacher education: Foundations, curriculum, policy (pp. 1-12). College Station, TX: Instructional Research Laboratory, Texas A & M University.
- Greene, M. (1978). Teaching: The question of personal reality. Teachers College Record, 80(1), 23-35.
- Griffin, G. A. (1983). Staff development. Paper prepared for the NIE Teaching Synthesis Conference, Arlie House, VA.
- Griffin, G. A., Lieberman, A., & Jacullo-Moto, J. (1983). Interactive research and development on schooling: Executive summary of the final report. Austin: University of Texas Research and Development Center for Teacher Education.
- Gross, N., Giacchino, J., & Bernstein, M. (1971). Implementing organizational innovations. New York: Basic Books.
- Guba, E. G., and Clark, D. L. (1978). Levels of R & D productivity in schools of education. Educational Researcher, 7(5), 3-9.
- Haberman, M. (1983). Research in preservice laboratory and clinical experiences: Implications for teacher education. In Howey, K., and Gardner, W. (Eds.), The education of teachers. New York: Longman.

- Hines, M., & Radis, M. (1984). Teacher recertification: A survey of the states. *Ehi Delta Epsilon*, 22(2) 123-126.
- Hirshak, E. (1977). The production of education, teacher quality and efficiency. In D. A. Erickson (Ed.), *Educational organization and administration*. Berkeley, CA: McCutchan Publishing.
- Hess, C. (1957). Inservice education today. In E. Hazy (Ed.), *Inservice education for teachers, supervisors and administrators: The fifty-sixth yearbook of the national society for the study of education* (pp.13-34). Chicago: University of Chicago Press.
- Hodley, W., & Rosenbolts, S. (1984). Good schools: What research says about improving student achievement. Nashville, TN: Peabody College of Vanderbilt University.
- Hould, J. E. (1982). Education deans and their selection. *Journal of Teacher Education*, 33(1), 47-49.
- Hedges, L. V., Glasman, E. M., & Gage, N. L. (1981). Metaanalysis of the effects of open and traditional instruction. Stanford, CA: Stanford University Program on Teacher Effectiveness.
- Hendricks, C. G., Throssen, C. E., & Hibbard, D. R., Jr. (1974). Effects of behavioral self-observation on elementary teachers and students (Memorandum #212). Stanford, CA: Stanford Center for Research and Development in Teaching, Stanford University School of Education.
- Hering, W. M., & Hazy, K. R. (1982). Research in, on, and by teachers' centers. San Francisco, CA: Far West Laboratory for Educational Research and Development.
- Herman, R. W. (1978). Now inevitable: A substantial and lengthy teacher shortage. *Ehi Delta Epsilon*, 22(10), 693.
- Higher Education Daily*, (January 30, 1985), 13(30).
- Hilliard, A. (1984). Update. *Education Week*, 4(13), 3.
- Hite, H., & Hazy, K. R. (1977, May). Planning inservice teacher education: Promising alternatives. Washington, DC: MACIE/ERIC Clearinghouse on Teacher Education. (ERIC Document Reproduction Service No. ED 137 229)
- Hogan, P. (1983). The central place of prejudice in the supervision of student teachers. *Journal of Education for Teaching*, 2(1) 30-45.
- Holland, J. (1973). Making vocational choices: A theory of careers. Englewood Cliffs, NJ: Prentice-Hall.
- Holly, M. L. (1979). Personal-professional growth of teachers: An empirical study with implications for inservice education. Mimeo-graph, Kent State University, Kent, Ohio.

- Bolly, M. L. (1977). A conceptual framework for personal professional growth: Implications for inservice education (Doctoral dissertation, Michigan State University, 1977). Dissertation Abstracts International, 38A, 2521.
- Bravits, R. A. (1979, Winter). Psychological effects of the open classroom. Review of Education Research, 49(1), 71-85. (ERIC document Reproduction Service No. ED 205 683).
- Brattler, N. (1983). The role of the department of education in inservice education in Ohio. Ph.D. dissertation, The Ohio State University, Columbus.
- Houston, W. R., and Felder, B. (1982). Break horses, not teachers. Ehi Delta Express, 52(7), 457-460.
- Howey, K. R. (1984). The next generation of teacher preparation programs. A position paper prepared for the National Commission on Excellence in Education. Minneapolis: University of Minnesota.
- Howey, K. R. (1984). Six major functions of staff development: A selective review of the literature. Paper prepared for Policies, Practices and Research in Teacher Education: Beyond the Looking Glass, a national conference hosted by the University of Texas Research and Development Center for Teacher Education, Austin.
- Howey, K. R., Banta, R., & Corrigan, D. (1981). School focused inservice: Description and discussions. Reston, VA: Association of Teacher Educators.
- Howey, K. R., & Gardner, W. E. (1983). The education of teachers: A look ahead. New York: Longman.
- Howey, K. R., & Vaughan, J. C. (1983). Current patterns of staff development. In G. A. Griffin (Ed.), Staff development: The eighty-second yearbook of the national society for the study of education (pp. 92-117). Chicago: The University of Chicago Press.
- Howey, K. R., Yarger, S. J., & Joyce, B. R. (1978). Improving teacher education. Washington, DC: Association of Teacher Educators.
- Howey, K. R., & Ziegler, M. L. (1985). New curriculum directions in the education of teachers. Curriculum and Teaching, in press.
- Howes, R., Corrigan, D., Denmark, G. & Bash, R. (1976). Educating a profession. Washington, DC: The American Association of Colleges for Teacher Education.
- Hoy, W. K., & Peas, R. (1977). The bureaucratic socialization of student teachers. Journal of Teacher Education, 28(1), 23-26.
- Hunt, D. E. (1976). Teachers' adaptation: "Reading" and "fleeing" to students. Journal of Teacher Education, 27, 268-275.

- Bart, D. E. (1975). Person-environment interaction. Review of Educational Research, 45(2), 209-230.
- Barber, M. (1976). Prescriptions for improved instruction. El Segundo, CA: Theory into Practice Publications.
- Busen, T. (1983). Are standards in U.S. schools really lagging behind those in other countries? Ehi Delta Epsilon, 493-461.
- Ryan, J. S., & Cohen, S. A. (1979). Learning for mastery: Ten conclusions after 15 years and 3,000 schools. Educational Leadership, 37, 104-109.
- Ryan, R. (1984). Testing for teacher competence: The logic, the law, and the implications. Journal of Teacher Education, 35(2), 10-13.
- Indig, D. (1985). An examination of the teacher education scope. In C. W. Case and W. A. Matthes (Eds.), Colleges of education: perspectives on their future. Chicago: National Society for the Study of Education, and McCutchen Press.
- Indig, D. (1984). A commentary. Educational Researcher, 13(4), 18-20.
- Ishler, R. E. (1984). Requirements for admission to and graduation from teacher education. Ehi Delta Epsilon, 95(2), 121-122.
- Jacullo-Moto, J. (1985). Collaborative action research and staff development. Paper presented at the Mackin Brock Research Symposium, Rochester, MI.
- Johnson, R. T., & Johnson, D. W. (1982). Cooperation in learning: Ignored but powerful. Learning, 2, 22-26.
- Jones, B. F. (1985). The cutting edge. Unpublished manuscript. North Central Regional Educational Laboratory, Elmhurst, IL.
- Joyce, B., Bush, R., & McKibbin, M. (1981). Information and opinion from this California staff development study: The compact report. Sacramento: California State Department of Education.
- Joyce, B., & Cliff, R. (1984). The Phoenix agenda: Essential reform in teacher education. Educational Researcher, 13(4), 5-18.
- Joyce, B., & Showers, B. (1984). Power for staff development through research on training. Washington, DC: Association for Supervision and Curriculum Development.
- Joyce, B., & Showers, B. (1982). The coaching of teaching. Educational Leadership, 40(1), 4-16.
- Joyce, B., & Showers, B. (1981, April). Teacher training research: Working hypothesis for program design and directions for further study. Paper presented at the annual meeting of the American Education Research Association, Los Angeles, CA.

- Joyce, B., & Showers, B. (1981). Transfer of training: The contribution of 'coaching.' Journal of Education, 163(2), 163-172.
- Joyce, B., & Showers, B. (1977). Training ourselves: What we have learned about our ability to learn. Unpublished manuscript.
- Joyce, B., & Weil, M. (1980). Models of teaching (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Joyce, B., & Weil, M. (1976). Models of teaching. Englewood Cliffs, NJ: Prentice-Hall.
- Joyce, B., Yarger, S. J., & Hussy, K. R. (1977). Preservice teacher education. Palo Alto, CA: Rockswold Laboratory.
- Judge, W. (1982). American graduate schools of education: A view from abroad. New York: Ford Foundation.
- Kaestle, C. (1983). Pillars of the republic. New York: Hill and Wang.
- Kanter, R. M. (1981). Career growth and organization power: Issues for educational management in the 1980s. Teacher College Record, 82(4), 553-566.
- Katz, L. (1974, Summer). The advisory approach to inservice training. The Journal of Teacher Education, 25, 154-159.
- Katz, L., and Rath, J. D. (1982). The best intention for education of teachers. Action in Teacher Education, 4(1), 8-16.
- Katz, L., Rath, J., Mahanty, C., Ruzicki, A., & Irving, J. (1981). Follow-up studies: Are they worth the trouble? Journal of Teacher Education, 22(11), 18-24.
- Katzman, M. (1971). The political economy of urban schools. Cambridge, MA: Harvard University Press.
- Katzman, M. (1968). Distribution and production in a big city elementary school system. Yale Economic Essays, 8(1).
- Kerr, D. H. (1983). Teaching competence and teacher education in the United States. In S. Shulman & G. Sykes (Eds.), Handbook of teaching and policy. New York: Longman.
- Kerr, D. H. (1983). Teaching competence and teacher education in the United States. Teachers College Record, 81(3), 525-552.
- Koehler, V. (1984). Research on preservice teacher education. Paper presented at the National Conference on Teacher Education, University of Texas Research and Development Center for Teacher Education, Austin.

- Kneller, G. F. (1984). The proper study of education. In J. Denton, W. Peters, & T. Savage (Eds.), New directions in teacher education: Foundations, curriculum, policy (pp. 13-24). College Station, Texas: Instructional Research Laboratory.
- Knowles, C. J., et al. (1982). Relationship of individualized teaching strategies to academic learning time for mainstreamed handicapped and non-handicapped students. Journal of Special Education, 16(4), 449-456.
- Koehler, V. (1984). Research on preservice teacher education. Paper presented at the National Conference on Teacher Education, University of Texas Research and Development Center for Teacher Education, Austin.
- Kohlberg, L. (1976). Moral stages and moralizations: The cognitive-developmental approach. In T. Lickona (Ed.), Moral development and behavior. New York: Holt, Rinehart & Winston.
- Kohlberg, L. (1968). Stage and sequence: The cognitive-developmental approach to socialization. In D. A. Goslin (Ed.), Handbook of socialization theory and research. Chicago: Rand McNally.
- Lacey, C. (1977). The socialization of teachers. London: Methuen.
- Ladd, E. (1979, April). The work experience of American college professors: Some data and an argument. Paper presented at the American Association of Higher Education, Washington, DC.
- Lanier, J. L. (1984). Research on teacher education (Occasional Paper No. 80). East Lansing: Michigan State University, Institute for Research on Teaching.
- Lanier, J. L., & Floden, R. E. (1978). Research and development needs for the advancement of teacher education. (Research series No. 8). East Lansing: Michigan State University, Institute for Research on Teaching.
- Lawrence, G. & Harrison, D. (1980). Policy implications of the research on the professional development of education personnel: An analysis of fifty-nine studies. In 1981 Report on Educational Personnel Development. Washington, DC: Feistritzer Publishing, Inc.
- Lawrence, G., et al. (1974). Patterns of effective inservice education: A state of the art summary of research on materials and procedures for changing teacher behaviors in inservice education. Tallahassee: Florida Department of Education.
- Lerner, M. & Cooper, M. (1979). How teacher unionists view inservice education. In Lieberman, A., and Miller, L. (Eds.), Staff development. New York: Teachers College Press.
- Levin, H. (1970). A cost-effective analysis of teacher selection. Journal of Human Resources, 1(1).

- Levy, G. (1970). Ghetto schools: Class warfare in an elementary school. Indianapolis, IN: Western Publishing Co.
- Lawin, K. (1984). Resolving social conflict. New York: Teachers College Press.
- Lieberman, A., and Miller, L. (1981). Staff development. New York: Teachers College Press.
- Lieberman, A., and Miller, L. (1978). The social realities of teaching. Teachers College Record, 80(4), 54-68.
- Lippitt, R. (1949). Training in community relations: A research exploration toward new group skills. New York: Harper.
- Little, J. (1984). Designs, contexts and consequences in the real world of staff development. Paper prepared for the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- Little, J., et al. (1984). Report of the task force on teacher training, credentialing and inservice (first working draft). San Francisco: Far West Laboratory on Excellence in Our Schools.
- Loevinger, J. (1976). Staff development: Conceptions and theories. San Francisco: Jossey-Bass.
- Lortie, D. (1975). School teachers: A sociological study. Chicago: University of Chicago Press.
- Lortie, D. (1966). Teacher socialization: The Robinson Crusoe model. In B. O. Smith (Ed.), The real world of the beginning teacher. Washington, DC: National Commission on Teacher Education and Professional Standards.
- Lysen, T. A., and Falk, W. W. (1984). Recruitment to school teaching: The relationship between high school plans and early adult attainments. American Educational Research Journal, 21(1), 181-193.
- McDermot, G. D., & Hwey, K. R. (1981). Inservice for team teaching to promote professional growth through team teaching. In K. R. Hwey, R. Berts, and D. Corrigan (Eds.), School-focused inservice: Descriptions and discussions (pp. 171-178). Reston, VA: Association of Teacher Education.
- McDonald, F., & Elias, P. (1982). Study of induction programs for beginning teachers (Vol. 1). Princeton, NJ: Educational Testing Service.
- McEachlan, J. F. C., & Hart, D. E. (1973). Differential effects of discovery learning as a function of student conceptual level. Canadian Journal of Behavioral Science, 5, 152-160.
- McLaughlin, M. W., and Marsh, D. D. (1978). Staff development and school change. Teachers College Record, 80(1), 69-94.

- Massey, S., & Crosby, J. (1983). Special problems, special opportunities: Preparing teachers for rural schools. *Ehi Delta Kappa*, 64, (16) 265-269.
- Marcer, W. A. (1984). Teacher education admission requirements: Alternatives for black perspective teachers and other minorities. *Journal of Teacher Education*, 35(1), 26-29.
- Martens, S. (1982). Beyond pro forma teacher inservice. *MEJES*, 4(2), 1-2.
- Martens, S. (1981). The basics in inservice education: Findings from the Band and teacher center studies. Unpublished manuscript, Syracuse University, Syracuse, NY.
- Martens, S. K., & Yarger, S. J. (1981). Teacher centers in action: A comprehensive study of program activities, staff services, resources and policy board operations in 17 federally-funded teacher centers. Syracuse, NY: Syracuse Area Teacher Center.
- Minnesota Higher Education Coordinating Board. (1984). State policies on teacher education: Analysis and alternatives. Briefing paper.
- Mitchell, D., & Reichner, C. (1983). Labor relations and teacher policy. In Shulman, L. and Sykes, G. (Eds.) Handbook on teaching and policy. New York: Longman.
- Morris, M. (1982). The public school as workplace: The principal as a key element in teacher satisfaction. A study of schooling in the United States (Technical report series, No. 32). Dayton, OH: Institute for Development of Educational Activities.
- Morrissey, D. (1984). Tomorrow's teachers. Washington, DC: Applied Systems Institute.
- Murnane, R. (1975). The impact of school resources on the learning of inner city children. Cambridge, MA: Ballinger.
- Murnane, R., & Phillips, B. (1978). Effective teachers of inner city children: Who they are and what they do. Princeton, NJ: Mathematica Policy Research.
- Murphy, M. (1984). Estimating the supply costs of ability for teachers. Paper presented at the annual meeting of the American Education Finance Association, Orlando, FL.
- Musumache, R., and Adams, S. (1978). The coming teacher shortage. *Ehi Delta Kappa*, 59(10), 691-693.
- National Center for Educational Statistics. (1981). Projections of educational statistics to 1983-89. Washington, DC: U.S. Government Printing Office.
- National Education Association. (1982). Status of the American public school teacher, 1980-82. Washington, DC: National Education Association.

- Navarro, R. (1985). Developing conceptual change through collaborative research with teachers. Paper presented at the Meadow Brook Research Symposium, Rochester, NY.
- Neimark, E. D. (1975). Intellectual development during adolescence. In F. D. Horowitz (Ed.), Series of child development research (Vol. 4). Chicago: University of Chicago Press.
- Newman, E. K., Burden, P., and Applegate, J. M. (1990). Training teachers examine their long term development. Washington, DC: ERIC Clearinghouse on Teacher Education. (EDUC Document Reproduction Service No. ED 204 321)
- Nicholson, A., & Joyce, B. (1976). The literature on inservice teacher education: An analytic review. IRE Report III, Palo Alto, CA: Stanford Center for Research and Development in Teaching.
- Obry, A. (1985). The personal knowledge of the practitioner. Paper presented at the Meadow Brook Research Symposium, Rochester, NY.
- Oja, S. N. (1984). Role issues in practical collaborative research on change in schools. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Oja, S. N. (1983). A two year study of teacher stages of development in relation to collaborative action research in school (Final report). Durham, NH: The University of New Hampshire, Collaborative Action Research Project Office.
- Orr, P., & Passau, B. (1979). Formula finding is not the problem in teacher education. Peabody Journal of Education, 57(1), 61-71.
- Pavalko, R. (1970). Recruitment to teaching: Patterns of selection and retention. Sociology of Education, 43(3), 340-353.
- Perry, N. C. (1981). New teachers: Do the best get hired? Ehi Delta Epsilon, 63(2), 113-114.
- Perry, W. G. (1969). Forms of intellectual and ethical development during the college years. New York: Holt, Rinehart, & Winston.
- Passau, B., & Orr, P. (1980). The outrageous underfunding of teacher education. Ehi Delta Epsilon, 62(2), 100-102.
- Peterson, P. L., & Walberg, J. J. (Eds.) (1979). Research on teaching: Concepts, findings and implications. Berkeley, CA: McCutchan Publishing.
- Piaget, J. (1972). Intellectual evolution from adolescence to adulthood. Human Development, 15, 1-12.
- Popkewitz, T., & Tabachnick, B. (1981). The study of schooling. New York: Praeger Publishers.

- Popkewitz, T., Tabachnick, B., & Zeichner, K. (1979). Dulling the senses: Research in teacher education. *Journal of Teacher Education*, 10(5), 52-59.
- Pupach, M. C., and Raths, J. D. (1983). Testing teachers: Analysis and recommendations. *Journal of Teacher Education*, 14(1), 37-44.
- Purkey, S. C., & Smith, M. D. (1982). Effective schools: A review. *The Elementary School Journal*, 83(4), 427-452.
- Raichert, P. A. (1984). Teacher development from a career development perspective. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Roberson, S., Smith, T., and Page, E. (1983). How who aspires to teach? *Educational Researcher*, 10(6), 13-21.
- Rooney, P. M., and Clark, D. L. (1982). New deans, old deans: A test of the "honeymoon period" hypothesis. *Journal of Teacher Education*, 13(5), 47-49.
- Rosenholts, S. J. (1985). Political myths about education reform: Lessons from research in teaching. *Ehi Delta Journal*, 66(5), 349-355.
- Rosenshine, B. (1983). Teaching functions in instructional programs. *Elementary School Journal*, 83(4), 335-351.
- Ryan, K. (1982). Why bother with induction? Paper presented at the annual meeting of the American Educational Research Association, New York.
- Ryan, K. (Ed.). (1980). Biting the apples: Accounts of first-year teachers. New York: Longman.
- Sandberg, J. (1985). Building bridges, broadening the base and constructing a constituent community. Paper presented at the Meadow Brook Research Symposium, Rochester, MI.
- Sandefur, J. (1984). Standards for admission to teacher education programs. An issue paper prepared for the Minnesota Higher Education Coordinating Board. Bowling Green, KY: Western Kentucky University.
- Sanders, D. (1985). Analysis of educational practice. Paper presented at the Meadow Brook Research Symposium, Rochester, MI.
- Sarason, S. B. (1976). The culture of the school and the problem of change (2nd ed.). Boston, MA: Allyn and Bacon, Inc.
- Scarnell, D. P. (1984). The extended teacher education program at the University of Kansas. *Ehi Delta Journal*, 66(2), 130-133.
- Schlechty, P., & Vance, V. (1983). Recruitment, selection and retention: The shape of the teaching force. *Elementary School Journal*, 83(4), 469-487.

- Schlechty, P., and Vance, V. S. (1981). Do academically able teachers leave education? The North Carolina case. Phi Delta Kappan, 63(2), 106-112.
- Schlechty, P., Joslin, A., Leak, S. and Hines, M. (1985). The Charlotte-Mecklenburg teacher career development program. Journal of the Association for Supervision and Curriculum Development, 42(4), 4-6.
- Schneider, A. A., & Yarger, S. J. (1974). Teacher/teaching centering in America. Journal of Teacher Education, 25(1), 9-12.
- Semal, M. I. (1972). Toward the development of a computer-assisted teacher training system. Bloomington: Indiana University, Center for Innovation in Teaching the Handicapped.
- Sharp, L., & Hirschfield, S. (1975). Who are the new teachers? A look at the 1971 college graduates. Washington, DC: Bureau of Social Science Research.
- Showers, B. (1984, April). Peer coaching and its effects on transfer of training. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Stutes, R. (1975). Needed: A theory of teacher education. Texas Tech Journal of Education, 2, 94-101.
- Sizer, F. (1984). A study of high schools. Cambridge, MA: Harvard University Press.
- Slavin, R. E. (1980, Summer). Cooperative learning. Review of Educational Research, 40(2), 315-342.
- Smith, B. (1980). A design for a school of pedagogy. Washington, DC: U.S. Department of Education.
- Smith, D. C. (Ed.). (1983, December). Essential knowledge for beginning educators. Washington, DC: AACTE/ERIC Clearinghouse on Teacher Education. (ERIC Document Reproduction No. SP 022 600)
- Smith, G. P. (1984). The critical issue of excellence and equity in competency testing. Journal of Teacher Education, 35(2), 6-9.
- Smyth, W. J. (1980). Professional development and educational leadership in schools: In search of a paradigm. Paper presented at the annual meeting of the Australian Council for Educational Administration, Adelaide.
- Snyder, R. (1984). Report on the future. Washington DC: National Education Association.
- Sparks, G. M. (1983). Synthesis of research on staff development for effective teaching. Educational Leadership, 41(3), 65-72.

- Sprinthal, N., & Thies-Sprinthal, L. (1983). The need for theoretical frameworks in educating teachers: A cognitive developmental perspective. In K. R. Hovey & W. E. Gardner (Eds.), The education of teachers: A look ahead. New York: Longman.
- Sprinthal, N., & Thies-Sprinthal, L. (1983). The teacher as an adult learner: A cognitive developmental view. In G. Griffin (Ed.), Staff Development: The eighty-second yearbook of the national society for the study of education (pp. 13-34). Chicago: University of Chicago Press.
- Sproul, A. (1977). Selections from an advisor's notebook. In K. Duveway (Ed.), Essays on teachers' centers (pp. 113-121). San Francisco, CA: Teachers' Centers Exchange, Far West Laboratory for Educational Research and Development.
- Spuck, D. (1974). Reward structures in the public school. Educational Administration Quarterly, 10(1), 18-34.
- Squires, D. A., Britt, W. G., & Segars, J. K. Effective schools and classrooms: A research-based perspective. Alexandria, VA: Association for Supervision and Curriculum Development.
- Stallings, J. (1982). How useful are the findings from the research on teaching? In M.E. Dafino & H. Carter (Eds.), Changing teaching practices: Proceedings of a national conference (pp. 5-24). Austin: University of Texas Research and Development Center for Teacher Education.
- Stallings, J. (1980). Allocated academic learning time revisited or beyond time on task. Educational Researcher, 2(1).
- Stallings, J., Needles, M., & Stayrock, W. (1978). The teaching of basic reading skills in secondary schools. Phase II. Final Report. Menlo Park, CA: SRI International.
- Stanley, S.O., & Greenwood, C.R. (1983). How much opportunity to respond does the minority disadvantaged student receive in school? Exceptional Children, 49(4), 370-373.
- Stedman, C. (1984). Testing for competency: A pyrrhic victory. Journal of Teacher Education, 35(2) 2-5.
- Stedman, D. (1980). Improving teacher education: Academic program review. Atlanta, GA: Southern Regional Education Board.
- Sternberg, R. (1984). Testing intelligence without I.Q. tests. Phi Delta Kappan, 66(10), 694-698.
- Stoles, M. J. (1983). Quality of school of education students and graduates. Milwaukee: University of Wisconsin, Milwaukee.
- Summers, A., & Wolfe, B. (1977). Do schools make a difference? American Economic Review, 67, 639-642.

- Super, D. E. (1970). Work values inventory. Boston, MA: Houghton-Mifflin.
- Super, D. E., and Hall, D. T. (1978). Career development: Exploration and planning. In M. R. Rosenzweig and L. W. Porter (Eds.), Annual review of psychology. Palo Alto, CA: Annual Review, Incorporated.
- Sykes, G. (1984). The dial. The Wilson Quarterly, 8(1), 59-77.
- Sykes, G. (1983). Contradictions, ironies and promises unfulfilled: A contemporary account of the status of teaching. Ehi Delta Review, 25(2), 87-93.
- Sykes, G. (1983). Teacher preparation and the teacher workforce: Problems and prospects for the '80s. American Education, 12(2), 22-30.
- Temple, C., & Riggs, R. (1978). The declining suitability of the formula approach to public higher education. Peabody Journal of Education, 25(4), 351-357.
- Tikunoff, W. J., Ward, B. A., & Griffin, G. A. (1979). Interactive research and development on teaching study: Final report. (ID40F 379-11). San Francisco, CA: Far West Regional Laboratory for Educational Research and Development.
- Tom, A. R. (1984). Fifth year teacher preparation: A solution in search of a problem. The Forum for Liberal Education, 7(2), 2-4.
- Tom, A. R. (1981). An alternative set of NCATE standards. Journal of Teacher Education, 32(6), 48-52.
- Tomlinson-Keevy, C. (1972). Formal operations in females from eleven to fifty-four years of age. Developmental Psychology, 6, 364.
- Travers, R. (1985). Consciousness and science: Sources of educational innovation. Paper presented at the Meadow Brook Research Symposium, Rochester, MI.
- Vance, V., & Schlechty, P. (1982). The distribution of academic ability in the teaching force: Policy implications. Ehi Delta Review, 64 (1), 2-27.
- Veenman, S. (1984). Perceived problems of beginning teachers. Review of Educational Research, 54(2), 143-178.
- Walberg, H. J., & Wexman, H. C. (1983). Teaching, learning, and the management of instruction. In D. C. Smith (Ed.), Essential knowledge for beginning educators. Washington, DC: AACTE/ERIC Clearinghouse on Teacher Education. (ERIC Document Reproduction No. SP 022 600)
- Wangberg, E. G., Metzger, D. J., and Levitov, J. E. (1982). Working conditions and career options lead to female elementary teacher job dissatisfaction. Journal of Teacher Education, 33(5), 37-40.

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name is
Veenman

- Ward, B. (1983). Collaborative action research: An avenue for the reform of inservice teacher education? Paper presented at the Meadow Brook Research Symposium, Rochester, MI.
- Ward, B., & Tikunoff, W. (1982). Collaborative research. Invited paper for the Implications of Research on Teaching Practice Conference. National Institute of Education.
- Weaver, T. (1981). The talent pool in teacher education. Journal of Teacher Education, 32(3), 32-36.
- Weaver, T. (1979). In search of quality: The need for talent in teaching. Ehi Delta Express, 61(1), 29-32.
- Wendling, W., & Cohen, J. (1981). Educational resources and student achievement: Good news for schools. Journal of Educational Finance, 7(1), 44-63.
- Willie, R., & Hwey, K. R. (1980). Reflections on adult development: Implications for inservice teacher education. In W. R. Houston & R. Perkratz (Eds.), Staff development and educational change. Reston, VA: Association of Teacher Educators.
- Wisniewski, R., & Kleins, P. (1984). Teacher moonlighting: An unstudied phenomenon. Ehi Delta Express, 65(8), 553-555.
- Witty, E. (1982). Prospects for black teachers: Preparation, certification, employment. Washington, D.C.: ERIC Clearinghouse on Teacher Education.
- Wood, F., Thompson, S., & Russell, S. (1981). Designing effective staff development programs. In B. Dillon-Peterson, (Ed.), Staff development/ Organization development. Alexandria, VA: Association for Supervision and Development.
- Wyne, E. (1980). Looking at schools: Good, bad and indifferent. Lexington, MA: D.C. Heath.
- Yarger, S. J. (1982). Summary of analyses for lack of recognition of the importance of induction in U.S. teacher education. Paper presented at the annual meeting of the American Educational Research Association, New York.
- Yarger, S. J. (1976). An exploratory model for program development in inservice education. Creative authority and collaboration. The Inservice Teacher Education Concepts Project, Report IV. Palo Alto: CA.
- Yarger, S. J., & Galusso, G. (1983). Toward solving the dilemmas of research on inservice teacher education. In K. Hwey & W. Gardner (Eds.), The education of teachers. New York: Longman.
- Yarger, S. J., Hwey, K. R., & Joyce, B. R. (1980). Inservice teacher education. Palo Alto, CA: Bookend Laboratory.

- Yarger, S. J., Hovey, K. R., and Joyce, B. R. (1977). Reflections on preservice preparation: Impressions from the national survey. Journal of Teacher Education, 32(6), 34-37.
- Yarger, S. J., and Mertens, S. K. (1980). Testing the waters of school based teacher education. In D. C. Corrigan and K. R. Hovey (Eds.), Special education in transition: concepts to guide the education of experienced teachers. Reston, VA: Council on Exceptional Children, 139-164.
- Zeichner, K. (1983). Alternative paradigms of teacher education. Journal of Teacher Education, 34(3), 3-9.
- Zeichner, K. (1979, October). The dialectic of teacher socialization. Paper presented at the annual meeting of the Association of Teacher Educators, Orlando, FL.
- Zeichner, K. (1978). The student teaching experience. Journal of the Association of Teacher Educators, 1(1), 59-68.
- Zeichner, K., & Grant, C. (1981). Biography and social structure in the socialization of student teachers: A reexamination of the pupil control ideologies of student teachers. Journal of Education for Teaching, 7 (3), 298-314.
- Zeichner, K., and Tabacknick, B. R. (1982). The belief systems of university supervisors in the elementary student teaching program. Journal of Education for Teaching, 8(1), 34-54.
- Zeigler, H. (1967). The political life of American teachers. Englewood Cliffs, NJ: Prentice-Hall.